

## **LITERATUR ZMK 6 2026**

**ZMK 2026; 42 (6) S. 275**

**Prof. Dr. Claus-Peter Ernst**

**Ohne Zähne stribt man aus!**

- [1] Turner, A. H., Kernan, C. E., Laing, A., Pritchard, A. C., Stocker, M. R., Irmis, R. B., ... Nesbitt, S. J. (2026). A new shuvosaurid (Archosauria, Poposauroida) from the Late Triassic (Norian) Hayden Quarry of New Mexico, U.S.A. *Journal of Vertebrate Paleontology*. <https://doi.org/10.1080/02724634.2026.2618182>
  - [2] <https://www.n-tv.de/wissen/Zweibeiniges-Krokodil-ohne-Zaehne-entdeckt-id30858651.html>
  - [3] <https://www.n-tv.de/wissen/Studie-Neandertaler-kannten-bereits-Zahnaerzte-id30818321.html>
  - [4] Langer L. War der erste Zahnarzt ein Neandertaler? *zm* 2026; 116 (11), 894-895
  - [5] Zubova AV, Zotkina LV, Olsen JW, Kulkov AM, Moiseyev VG, Malyutina AA, et al. (2026) Earliest evidence for invasive mitigation of dental caries by Neanderthals. *PLoS One* 21(5): e0347662. <https://doi.org/10.1371/journal.pone.0347662>
- 

**ZMK 2026; 42 (6) S. 278-87**

**Dr. Daniel Weber**

**Interdisziplinäre DC-CMS**

**Diagnoseklassifikation des craniomandibulären Systems**

- [1] Weber D, Ahlers MO, Hugger A, et al. The interdisciplinary Diagnostic Classification of the Craniomandibular System (DC-CMS) Part 1. *J CranioMand Funct* 2025;17:211–228.
  - [2] Weber D, Ahlers MO, Hugger A, et al. The interdisciplinary Diagnostic Classification of the Craniomandibular System (DC-CMS) Part 2. *J CranioMand Funct* 2025;17:311–343.
  - [3] Weber D, Ahlers MO, Hugger A, et al. The interdisciplinary Diagnostic Classification of the Craniomandibular System (DC-CMS) Part 3. *J CranioMand Funct* 2026;18:311–327
-

**Okklusionsschienen in der CMD-Therapie – leitlinienbasierte, praxisorientierte Umsetzung**

- [1] Zieliński G, Pająk-Zielińska B, Ginszt M. A Meta-Analysis of the Global Prevalence of Temporomandibular Disorders. *J Clin Med.* 2024; 13 (5): 1365. doi:10.3390/jcm13051365 PubMed PMID: 38592227; PubMed Central PMCID: PMC10931584.
  - [2] Greene CS. The etiology of temporomandibular disorders: implications for treatment. *J Orofac Pain.* 2001; 15 (2): 93–105; discussion 106-116. PubMed PMID: 11443830.
  - [3] Schiffman E, Ohrbach R, Truelove E, Look J, Anderson G, Goulet JP, u.a. Diagnostic Criteria for Temporomandibular Disorders (DC/TMD) for Clinical and Research Applications: recommendations of the International RDC/TMD Consortium Network\* and Orofacial Pain Special Interest Group†. *J Oral Facial Pain Headache.* 2014; 28 (1): 6–27. doi:10.11607/jop.1151 PubMed PMID: 24482784; PubMed Central PMCID: PMC4478082.
  - [4] Ohrbach R, Dworkin SF. The Evolution of TMD Diagnosis: Past, Present, Future. *J Dent Res.* 2016; 95 (10): 1093–101. doi:10.1177/0022034516653922 PubMed PMID: 27313164; PubMed Central PMCID: PMC5004241.
  - [5] Lourinho C, Salgado H, Correia A, Fonseca P. Mechanical Properties of Polymethyl Methacrylate as Denture Base Material: Heat-Polymerized vs. 3D-Printed-Systematic Review and Meta-Analysis of In Vitro Studies. *Biomedicines.* 2022; 10 (10): 2565. doi:10.3390/biomedicines10102565 PubMed PMID: 36289826; PubMed Central PMCID: PMC9599137.
  - [6] Marcel R, Reinhard H, Andreas K. Accuracy of CAD/CAM-fabricated bite splints: milling vs 3D printing. *Clin Oral Investig.* 2020; 24 (12): 4607–15. doi:10.1007/s00784-020-03329-x PubMed PMID: 32436163; PubMed Central PMCID: PMC7666673.
  - [7] Prause E, Hey J, Beuer F, Schmidt F. Wear resistance of 3D-printed materials: A systematic review. *Dent Rev.* 2022; 2 (2): 100051. doi:10.1016/j.dentre.2022.100051
  - [8] Almansour FW, Alshammari K, Mohammed Alhajri D, Bader Alzamanan M, Hamed Alduaij F, Walled Abdullah K, u.a. Digital Versus Conventional Splints in Patients With Temporomandibular Disorders: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *Cureus.* 27. März 2026. doi:10.7759/cureus.105977
  - [9] SIMONS D.G., TRAVELL J.G., SIMONS L.S.: Handbuch der Muskel-Triggerpunkte–Obere Extremität, Kopf, Rumpf. Urban & Fischer, Elsevier GmbH, München 2002.
-

Sophia Habsburg-Lothringen et al.

## Systemische Erkrankungen und ihre Bedeutung für den parodontalen Umbau während der kieferorthopädischen Therapie

- [1] American Academy of Pediatric Dentistry. Caries-risk assessment and management for infants, children, and adolescents. *The Reference Manual of Pediatric Dentistry*. Chicago, Ill.: American Academy of Pediatric Dentistry. 2024:306-12.
- [2] Bajaj JS, Matin P, White MB, Fagan A, Deeb JG, Acharya C, Dalmet SS, Sikaroodi M, Gillevet PM, Sahingur SE. Periodontal therapy favorably modulates the oral-gut-hepatic axis in cirrhosis. *Am J Physiol Gastrointest Liver Physiol*. 2018 Nov 1;315(5):G824-G837. doi: 10.1152/ajpgi.00230.2018. Epub 2018 Aug 17. PMID: 30118351; PMCID: PMC6293251.
- [3] Benzian H, Naidoo S. The 6x6 approach to NCDs: time to include oral diseases and sugars. *British Dental Journal*. 2024;236:505-505. doi: 10.1038/s41415-024-7316-9
- [4] Botelho J, Mascarenhas P, Viana J, Proença L, Orlandi M, Leira Y, Chambrone L, Mendes JJ, Machado V. An umbrella review of the evidence linking oral health and systemic noncommunicable diseases. *Nat Commun*. 2022;13:7614. doi: 10.1038/s41467-022-35337-8
- [5] Chen MX, Zhong YJ, Dong QQ, Wong HM, Wen YF. Global, regional, and national burden of severe periodontitis, 1990-2019: An analysis of the Global Burden of Disease Study 2019. *J Clin Periodontol*. 2021 Sep;48(9):1165-1188. doi: 10.1111/jcpe.13506. Epub 2021 Jul 7. PMID: 34101223.
- [6] Clark D, Kotronia E, Ramsay SE. Frailty, aging, and periodontal disease: Basic biologic considerations. *Periodontology 2000*. 2021;87:143-156. doi: <https://doi.org/10.1111/prd.12380>
- [7] Deinzer R, Jordan AR, Kuhr K, Margraf-Stiksrud J. Oral hygiene behavior and toothbrushing skills: results of the 6th German Oral Health Study (DMS • 6). *Quintessence Int*. 2025;56:S82-s87. doi: 10.3290/j.qi.b5982011
- [8] Delgado V, Ajmone Marsan N, de Waha S et al (2023) ESC Guidelines for the management of endocarditis. *EurHeartJ*44(39):3948–4042
- [9] Grønkjær LL. Periodontal disease and liver cirrhosis: A systematic review. *SAGE Open Med*. 2015;3:2050312115601122. doi: 10.1177/2050312115601122
- [10] Grubbs V, Vittinghoff E, Beck JD, Kshirsagar AV, Wang W, Griswold ME, Powe NR, Correa A, Young B. Association Between Periodontal Disease and Kidney Function Decline in African Americans: The Jackson Heart Study. *J Periodontol*. 2015;86:1126-1132. doi: 10.1902/jop.2015.150195
- [11] Hathaway-Schrader JD, Novince CM. Maintaining homeostatic control of periodontal bone tissue. *Periodontology 2000*. 2021;86:157-187. doi: <https://doi.org/10.1111/prd.12368>
- [12] Herrera D, Molina A, Buhlin K, Klinge B. Periodontal diseases and association with atherosclerotic disease. *Periodontol 2000*. 2020;83: 66–89. <https://doi.org/10.1111/prd.12302>
- [13] Herrera D, Sanz M, Kebschull M, Jepsen S, Sculean A, Berglundh T, Papapanou PN, Chapple I, Tonetti MS; EFP Workshop Participants and Methodological Consultant. Treatment of stage IV periodontitis: The EFP S3 level clinical practice guideline. *J Clin Periodontol*. 2022 Jun;49 Suppl 24:4-71. doi: 10.1111/jcpe.13639. PMID: 35688447.

- [14] Jeon HH, Huang X, Rojas Cortez L, Sripinun P, Lee J-m, Hong JJ, Graves DT. Inflammation and mechanical force-induced bone remodeling. *Periodontology* 2000.n/a. doi: <https://doi.org/10.1111/prd.12619>
- [15] Knaup I, Kramann R, Sasula MJ, Mack P, Bastos Craveiro R, Niederau C, Coenen F, Neuss S, Jankowski J, Wolf M. TNF reduces osteogenic cell fate in PDL cells at transcriptional and functional levels without alteration of periodontal proliferative capacity. *J Orofac Orthop*. 2025 Aug;86(Suppl 1):12-21. doi: 10.1007/s00056-024-00541-2. Epub 2024 Aug 2. PMID: 39093345; PMCID: PMC12394258.
- [16] Kocher T, Eickholz P, Kuhr K, Jordan AR, Sasunna D, Pitchika V, Holtfreter B. Trends in periodontal status: results from the German Oral Health studies from 2005 to 2023. *Quintessence Int*. 2025;56:S48-s58. doi: 10.3290/j.qi.b5981996
- [17] Liu Y, Guo L, Li X, Liu S, Du J, Xu J, Hu J, Liu Y. Challenges and Tissue Engineering Strategies of Periodontal-Guided Tissue Regeneration. *Tissue Eng Part C Methods*. 2022;28:405-419. doi: 10.1089/ten.TEC.2022.0106
- [18] Parker ML, Thornton-Evans G, Wei L, Griffin SO. Prevalence of and Changes in Tooth Loss Among Adults Aged ≥50 Years with Selected Chronic Conditions - United States, 1999-2004 and 2011-2016. *MMWR Morb Mortal Wkly Rep*. 2020 May 29;69(21):641-646. doi: 10.15585/mmwr.mm6921a1. PMID: 32463807; PMCID: PMC7269607.
- [19] Parsegian K, Randall D, Curtis M, Ioannidou E. Association between periodontitis and chronic kidney disease. *Periodontol* 2000. 2022;89:114–124. doi:10.1111/prd.12431
- [20] Passanezi E, Sant'Ana ACP. Role of occlusion in periodontal disease. *Periodontology* 2000. 2019;79:129-150. doi: <https://doi.org/10.1111/prd.12251>
- [21] Rizk, M., Häck, S., Brenji, S. et al. Preventive effect of probiotics on periodontal ligament in a rat model of anorexia nervosa. *Sci Rep* 15, 19287 (2025). <https://doi.org/10.1038/s41598-025-02610-x>
- [22] Villoria GEM, Fischer RG, Tinoco EMB, Meyle J, Loos BG. Periodontal disease: A systemic condition. *Periodontology* 2000. 2024;96:7-19. doi: <https://doi.org/10.1111/prd.12616>
- 

**ZMK 2026; 42 (6) S. 204-309**

**Peter Schmidt et al.**

**Patientinnen und Patienten mit Williams-Beuren-Syndrom in der zahnärztlichen Praxis: Möglichkeiten und Grenzen in der ambulanten Betreuung und Versorgung**

- [1] Axelsson S, Kjaer I, Heiberg A et al. Dental characteristics in Williams syndrome: a clinical and radiographic evaluation. *Acta Odontol Scan* 2005; 61(3):129-136
- [2] Beuren AJ, Apitz J, Harmamjanz D. Supravalvular aortic stenosis in association with mental retardation and a certain facial appearance. *Circulation* 1962; 26:1235-1240
- [3] Boehm O. Mortalität und Sterblichkeit in der Anästhesiologie, Patientensicherheit als Kernkompetenz des Anästhesisten. *Anäst Intensivmed* 2019; 60:488–500. DOI: 10.19224/ai2019.488
- [4] Brewer CM, Morrison N, Tolmie JL. Clinical and molecular cytogenetic (FISH) diagnosis of Williams syndrome. *Arch Dis Child* 1996; 74(1):59-61
- [5] Castro T, Paula Martins Santos C, de Oliveira Lira Ortega A et al. Oral

- characteristics and medical considerations in the dental treatment of individuals with Williams syndrome. *Spec Care Dentist* 2019; 39(2):108-113
- [6] Cogulu D, Hazan F, Cagirir Dindaroglu F. Orofacial findings and dental management of Williams syndrome. *Genet Couns* 2015; 26(4):437-442
- [7] Collins RT. Cardiovascular disease in Williams syndrome. *Circulation* 2017; 127(21): 2125-2134
- [8] Ferreira SB, Viana MM, Maia NG, et al. Oral findings in Williams-Beuren syndrome. *Med Oral Patol Oral Cir Bucal* 2018; 23(1):e1-e6. doi: 10.4317/medoral.21834. PMID: 29274148
- [9] Gupta P, Tobias JD, Goyal S et al. Sudden cardiac death under anesthesia in pediatric patient with Williams syndrome: a case report and review of literature. *Ann Card Anaesth* 2010; 13(1):44-48.
- [10] Habersack K. Ist das Williams-Beuren-Syndrom für die Kieferorthopädie relevant? *Kieferorthopädische Nachrichten* 2024; 22(9):6-10
- [11] Heckenbrücker F und Fehn K. Oralchirurg, Anästhesist – Staatsanwalt!? *ZWPonline* 2013 <https://www.zwp-online.info/zwpnews/wirtschaft-und-recht/recht/oralchirurg-anaesthesist-staatsanwalt> (Letzter Zugriff am: 11.05.2026)
- [12] Heller FF. Zahnmedizinische Versorgung von Menschen mit Williams-Beuren-Syndrom aus der Sicht von Familienangehörigen 2025 (Med Diss)
- [13] Hertzberg J, Nakisbendi L, Needleman HL et al. Williams syndrome – oral presentation of 45 cases. *Pediatr Dent* 1994;16(4):262-267
- [14] Joseph C, Landru MM, Bdeouri F et al. Periodontal conditions in Williams Beuren syndrome: a series of 8 cases. *Eur Arch Paediatr Dent* 2008; 9(3):142-147
- [15] Kaplan P, Wang PP, Francke U. Williams (Williams Beuren) syndrome: a distinct neurobehavioral disorder. *J Child Neurol* 2001; 16(3):177-190
- [16] Kashyap AS, Sharma HS, Kumar P. Dental anomalies in Williams syndrome. *Postgrad Med J* 2000; 79(901):712
- [17] Kohase H, Wakita R, Doi S et al. General anesthesia for dental treatment in a Williams syndrome patient with severe aortic and pulmonary valve stenosis: suspected episode of postoperatively malignant hyperthermia. *Oral Surg Oral Med Oral Path Oral Radio Endod* 2007; 104(4)e17-e20
- [18] Kounis ND, Tsigkas G, Almpanis G et al. Kounis syndrome – the killer for Williams syndrome? *Ann Card Anaesth* 2010; 13(3):70-82
- [19] Matisoff AJ, Olivieri L, Schwartz JM et al. Risk assessment and anesthetic syndrome: a four-year follow-up. *Spec Care Dentist* 2015; 27(3):112-116
- [20] Monfared A. Death following tonsillectomy in a child with Williams syndrome. *Int J Pad Otorhinolaryngol* 2006; 70(6):1133-1135
- [21] Morris CA, Demsey SA, Leonard CO et al. Natural history of Williams syndrome: Physical characteristics. *J Pediatr* 1988; 113(3):318-326
- [22] Morris CA. GeneReviews®; Williams Syndrome, Seattle (WA). 1993
- [23] Olsen M, Fahy CJ, Costi DA et al. Anaesthesia-related haemodynamic complications in Williams syndrome patients: a review of one institution's experience. *Anaesth Intensive Care* 2014; 42(5):619-624
- [24] Orphan Anesthesia: Anaesthesia recommendations for Williams syndrome. <https://www.orphananesthesia.eu/de/erkrankungen/handlungsempfehlungen/w>

- illiams-syndrom/927-williams-syndrome-1/file.html ((Letzter Zugriff am: 11.05.2026)
- [25] Pankau R, Gosch A, Partsch CJ (Hrsg.). Das Williams-Beuren-Syndrom, Genetik - Medizin – Psychologie. 2015; Buch-München/Walsrode/Hamburg. ISBN-Nr. 978-3-73754-300-2
- [26] Patientenorientierte Krankheitsbeschreibung aus dem ACHSE Netzwerk. 2015 - Webseite: [https://www.orpha.net/pdfs/data/patho/Pub/Ext/de/Williams-BeurenSyndrom\\_DE\\_de\\_PUB\\_ORPHA904.pdf](https://www.orpha.net/pdfs/data/patho/Pub/Ext/de/Williams-BeurenSyndrom_DE_de_PUB_ORPHA904.pdf) (Letzter Zugriff am: 11.05.2026)
- [27] Preus M. The Williams syndrome; objective definition and diagnosis. Clin Genet 1984; 25(5): 422-428
- [28] Schmidt P, Goedicke-Padligur G, Schulte AG. Dentale und orofaziale Besonderheiten von Patienten mit Down-Syndrom und spezielle Aspekte bei der zahnmedizinischen Therapie – ein Überblick. Plaque 'n Care 2020; 14(3):118-124
- [29] Schulte-Sasse U. Vertrauen ist gut – Vereinbarungen sind besser! Auch Operateure können für Anästhesie-Komplikationen belangt werden. Bayerisches Zahnärzteblatt 2013; 11: 44-47
- [30] Strømme P, Bjørnstad PG, Ramstad K. Prevalence estimation of Williams syndrome. J Child Neurol 2002; 17(4): 269-271
- [31] Schmidt P, Tantzen C, Fricke O, et al. Zahnärztliche Versorgung von Patientinnen und Patienten mit Angelman-Syndrom. ZMK 2024; 40 (1-2): 06-15
- [32] Schmidt P, Kammo P, Fricke O, et al. Zahnmedizinische Betreuung von Menschen mit Rett-Syndrom. ZMK 2025; 41 (7-8): 378-385.
- [33] Schmidt P, Tantzen C, Fricke O et al. Oral health care of people with Angelman syndrome in Germany – a questionnaire-based study. BMC Oral Health 2025, 25 (959) <https://doi.org/10.1186/s12903-025-06357-9>
- [34] Schulte AG. Präventivbetreuung von Menschen mit geistiger Behinderung in der zahnärztlichen Praxis. Zahnmedizin Up2date 2017; 11:43-56
- [35] Schulte AG, Stobias C, Schmidt P: Zur zahnmedizinischen Versorgung von
- [36] Williams JC, Barratt-Boye BG, Lowe JB. Supravalvular aortic stenosis. Circulation 1961; 24: 1311-1318
- [37] WBS-Info. [https://www.w-b-s.de/wp-content/uploads/2024/09/Zahnbrotschuere\\_low.pdf](https://www.w-b-s.de/wp-content/uploads/2024/09/Zahnbrotschuere_low.pdf) (Letzter Zugriff am: 11.05.2026)
- [38] WBS-Webseite: [www.w-b-s.de](http://www.w-b-s.de) (Letzter Zugriff am: 11.05.2026)
- [39] Schubert 2009
- [40] Schmidt P, Goedicke-Padliguet G, Schulte A, Fricke O. Versorgung von Patienten mit Autismus- Spektrum-Störungen. ZMK 2021, 37 (6): 368 – 375.
- [41] Statista 2026
-

**Minimalinvasive einflügelige Adhäsivbrücken aus Zirkonoxidkeramik zum Ersatz einzelner fehlender Zähne im Seitenzahnbereich**

- [1] (G-BA), G.B., Richtlinie über die Versorgung mit Zahnersatz und Zahnkronen. 2016.
- [2] Al-Ani, A.H., J.S. Antoun, W.M. Thomson, T.R. Merriman, and M. Farella, Hypodontia: An Update on Its Etiology, Classification, and Clinical Management. *Biomed Res Int*, 2017. 2017: p. 9378325.
- [3] Alghauli, M.A., S. Wille, F. Lehmann, and M. Kern, Survival and debonding resistance of posterior cantilever resin-bonded fixed dental prostheses for moderately and severely worn dentition during thermomechanical loading. *Dent Mater*, 2023. 39(7): p. 634-639.
- [4] Angker, L. and M.V. Swain, Nanoindentation: application to dental hard tissue investigations. *J Mater Res*, 2006. 21(8): p. 893-1905.
- [5] Beier, U.S., I. Kapferer, and H. Dumfahrt, Clinical long-term evaluation and failure characteristics of 1,335 all-ceramic restorations. *Int J Prosthodont*, 2012. 25(1): p. 70-8.
- [6] Beuer, F., J. Schweiger, and D. Edelhoff, Digital dentistry: an overview of recent developments for CAD/CAM generated restorations. *Br Dent J*, 2008. 204(9): p. 505-11.
- [7] Bömcke, W., J. Karl, and P. Rammelsberg, Minimally invasive prosthetic restoration of posterior tooth loss with resin-bonded, wing-retained, and inlay-retained fixed dental prostheses fabricated from monolithic zirconia: A clinical report of two patients. *J Prosthet Dent*, 2017. 117(4): p. 459-462.
- [8] Bömcke, W., F. Rathmann, P. Rammelsberg, and A. Zenthofer, Three-year performance of inlay-retained or wing-retained zirconia resin-bonded fixed partial dentures - results from a randomized clinical pilot study. *J Dent*, 2025. 159: p. 105807.
- [9] Bömcke, W., M. Waldecker, J. Krisam, P. Rammelsberg, and S. Rues, In vitro comparison of the load-bearing capacity of ceramic and metal-ceramic resin-bonded fixed dental prostheses in the posterior region. *J Prosthet Dent*, 2018. 119(1): p. 89-96.
- [10] Botelho, M.G., X. Ma, G.J. Cheung, R.K. Law, M.T. Tai, and W.Y. Lam, Long-term clinical evaluation of 211 two-unit cantilevered resin-bonded fixed partial dentures. *J Dent*, 2014. 42(7): p. 778-84.
- [11] Botelho, M.G., M.J.Y. Yon, K.C.K. Mak, and W.Y.H. Lam, A randomised controlled trial of two-unit cantilevered or three-unit fixed-movable resin-bonded fixed partial dentures replacing missing molars. *J Dent*, 2020. 103: p. 103519.
- [12] Burke, F.J., Survival rates for porcelain laminate veneers with special reference to the effect of preparation in dentin: a literature review. *J Esthet Restor Dent*, 2012. 24(4): p. 257-65.
- [13] Chaar, M., N. Passia, M. Becker, and M. Kern, Clinical outcome of posterior cantilever resin-bonded fixed dental prostheses (RBFDPs). *J Dent Res.*, 2024(103 (Spec Iss A)).

- [14] Chen, Z., Y. Si, Y. Gong, J.G. Wang, J.X. Liu, Y. He, W.P. He, Z. Nan, and Y. Zhang, Traumatic dental injuries among 8- to 12-year-old schoolchildren in Pinggu District, Beijing, China, during 2012. *Dent Traumatol*, 2014. 30(5): p. 385-390.
- [15] Cheung, G.S., S.C. Lai, and R.P. Ng, Fate of vital pulps beneath a metal-ceramic crown or a bridge retainer. *Int Endod J*, 2005. 38(8): p. 521-30.
- [16] Chrysanthakopoulos, N.A., Reasons for extraction of permanent teeth in Greece: a five-year follow-up study. *Int Dent J*, 2011. 61(1): p. 19-24.
- [17] Clausen, J.O., M. Abou Tara, and M. Kern, Dynamic fatigue and fracture resistance of non-retentive all-ceramic full-coverage molar restorations. Influence of ceramic material and preparation design. *Dent Mater*, 2010. 26(6): p. 533-8.
- [18] Cortellini, D. and A. Canale, Bonding lithium disilicate ceramic to feather-edge tooth preparations: a minimally invasive treatment concept. *J Adhes Dent*, 2012. 14(1): p. 7-10.
- [19] Dumfahrt, H. and H. Schaffer, Porcelain laminate veneers. A retrospective evaluation after 1 to 10 years of service: Part II--Clinical results. *Int J Prosthodont*, 2000. 13(1): p. 9-18.
- [20] Dupagne, L., V. Fouquet, and J.P. Attal, Chairside posterior cantilevered fixed partial denture: Case report. *Clin Case Rep*, 2023. 11(11): p. e8252.
- [21] Eakle, W.S., E.H. Maxwell, and B.V. Braly, Fractures of posterior teeth in adults. *J Am Dent Assoc*, 1986. 112(2): p. 215-8.
- [22] Edelhoff, D., A. Liebermann, F. Beuer, M. Stimmelmayer, and J.F. Guth, Minimally invasive treatment options in fixed prosthodontics. *Quintessence Int*, 2016. 47(3): p. 207-16.
- [23] Edelhoff, D. and J.A. Sorensen, Tooth structure removal associated with various preparation designs for anterior teeth. *J Prosthet Dent*, 2002. 87(5): p. 503-9.
- [24] Edelhoff, D. and J.A. Sorensen, Tooth structure removal associated with various preparation designs for posterior teeth. *Int J Periodontics Restorative Dent*, 2002. 22(3): p. 241-9.
- [25] Filho, P.M., K.O. Jorge, P.C. Paiva, E.F. Ferreira, M.L. Ramos-Jorge, and P.M. Zarzar, The prevalence of dental trauma and its association with illicit drug use among adolescents. *Dent Traumatol*, 2014. 30(2): p. 122-7.
- [26] Fradeani, M., G. Barducci, and L. Bacherini, Esthetic rehabilitation of a worn dentition with a minimally invasive prosthetic procedure (MIPP). *Int J Esthet Dent*, 2016. 11(1): p. 16-35.
- [27] Fradeani, M., G. Barducci, L. Bacherini, and M. Brennan, Esthetic rehabilitation of a severely worn dentition with minimally invasive prosthetic procedures (MIPP). *Int J Periodontics Restorative Dent*, 2012. 32(2): p. 135-47.
- [28] Friedman, M.J., A 15-year review of porcelain veneer failure--a clinician's observations. *Compend Contin Educ Dent*, 1998. 19(6): p. 625-8, 630, 632 passim; quiz 638.
- [29] Guess, P.C., S. Schultheis, M. Wolkewitz, Y. Zhang, and J.R. Strub, Influence of preparation design and ceramic thicknesses on fracture resistance and failure modes of premolar partial coverage restorations. *J Prosthet Dent*, 2013. 110(4): p. 264-73.
- [30] Guess, P.C., C.F. Selz, Y.N. Steinhart, S. Stampf, and J.R. Strub, Prospective clinical split-mouth study of pressed and CAD/CAM all-ceramic partial-coverage restorations: 7-year results. *Int J Prosthodont*, 2013. 26(1): p. 21-5.
- [31] Kasem, A.T., J.P.M. Tribst, M. Abo-Madina, and W. Al-Zordk, Evaluation of different designs for posterior cantilever zirconia inlay-retained fixed dental prostheses in

- missing tooth replacement: Stage one results with 18-month follow-up assessment. *J Dent*, 2023. 137: p. 104688.
- [32] Kelly, J.R., Clinically relevant approach to failure testing of all-ceramic restorations. *J Prosthet Dent*, 1999. 81(6): p. 652-61.
- [33] Kern, M., Resin-bonded fixed dental prostheses as alternative to implants in the anterior region - Age as a criterion. *Implantologie.*, 2016. 24(4): p. 389-398.
- [34] Kern, M., Fifteen-year survival of anterior all-ceramic cantilever resin-bonded fixed dental prostheses. *J. Dent.*, 2017. 56: p. 133-135.
- [35] Kern, M., RBFDPs - resin-bonded fixed dental prostheses - minimally invasive - esthetic - reliable. 2018.
- [36] Kern, M., N. Passia, M. Sasse, and C. Yazigi, Ten-year outcome of zirconia ceramic cantilever resin-bonded fixed dental prostheses and the influence of the reasons for missing incisors. *J Dent*, 2017. 65: p. 51-55.
- [37] Kern, M., V.P. Thompson, F. Beuer, R. Frankenberger, R.J. Kohal, K.H. Kunzelmann, P. Pospiech, and N. Reiss, *All-Ceramics at a Glance*. 3. ed. 2017, Ettlingen: Society for Dental Ceramics.
- [38] Kern, M., L. Turp, and C. Yazigi, Long-term outcome of anterior cantilever zirconia ceramic resin-bonded fixed dental prostheses: Influence of the pontic location. *J Prosthet Dent*, 2025. 133(4): p. 1017-1023.
- [39] Kramer, N., U. Lohbauer, and R. Frankenberger, Adhesive luting of indirect restorations. *Am J Dent*, 2000. 13(Spec No): p. 60D-76D.
- [40] Lam, W.Y.H., T.W. Lim, M.J. Yu Yon, J.M.H. Chau, G.C.H. Lai, D.C.P. Wang, and M.G. Botelho, Posterior two-unit cantilevered zirconia resin-bonded fixed partial dentures: A 3-year prospective single-arm clinical trial. *J Dent*, 2024. 147: p. 105140.
- [41] Lawn, B.R., Y. Deng, and V.P. Thompson, Use of contact testing in the characterization and design of all-ceramic crownlike layer structures: a review. *J Prosthet Dent*, 2001. 86(5): p. 495-510.
- [42] Mondelli, J., L. Steagall, A. Ishikiriyama, M.F. de Lima Navarro, and F.B. Soares, Fracture strength of human teeth with cavity preparations. *J Prosthet Dent*, 1980. 43(4): p. 419-22.
- [43] Mourshed, B., A. Samran, A. Alfagih, A. Samran, S. Abdulrab, and M. Kern, Anterior cantilever resin-bonded fixed dental prostheses: A review of the literature. *J Prosthodont*, 2018. 27(3): p. 266-275.
- [44] Nagasiri, R. and S. Chitmongkolsuk, Long-term survival of endodontically treated molars without crown coverage: a retrospective cohort study. *J Prosthet Dent*, 2005. 93(2): p. 164-70.
- [45] Naumann, M., M. Schmitter, R. Frankenberger, and G. Krastl, "Ferrule Comes First. Post Is Second!" Fake News and Alternative Facts? A Systematic Review. *J Endod*, 2018. 44(2): p. 212-219.
- [46] Ostermann, F., R. Busch, and M. Kern, Replacement of a missing molar despite proximal undercuts by using two single-retainer resin-bonded fixed dental prostheses. *Int J Comput Dent*, 2020. 23(3): p. 293-301.
- [47] Peumans, M., J. De Munck, S. Fiehuws, P. Lambrechts, G. Vanherle, and B. Van Meerbeek, A prospective ten-year clinical trial of porcelain veneers. *J Adhes Dent*, 2004. 6(1): p. 65-76.
- [48] Peumans, M., B. Van Meerbeek, P. Lambrechts, and G. Vanherle, Porcelain veneers: a review of the literature. *J Dent*, 2000. 28(3): p. 163-77.

- [49] Piwowarczyk, A., R. Bender, P. Ottl, and H.C. Lauer, Long-term bond between dual-polymerizing cementing agents and human hard dental tissue. *Dent Mater*, 2007. 23(2): p. 211-7.
- [50] Pjetursson, B.E. and N.P. Lang, Prosthetic treatment planning on the basis of scientific evidence. *J Oral Rehabil*, 2008. 35 Suppl 1: p. 72-9.
- [51] Sailer, I., T. Bonani, U. Brodbeck, and C.H. Hammerle, Retrospective clinical study of single-retainer cantilever anterior and posterior glass-ceramic resin-bonded fixed dental prostheses at a mean follow-up of 6 years. *Int J Prosthodont*, 2013. 26(5): p. 443-50.
- [52] Shahdad, S., M.J. Cattell, J. Cano-Ruiz, E. Gamble, and A. Gamboa, Clinical evaluation of all ceramic zirconia framework resin bonded bridges. *Eur J Prosthodont Restor Dent*, 2018. 26(4): p. 203-211.
- [53] St-Georges, A.J., J.R. Sturdevant, E.J. Swift, Jr., and J.Y. Thompson, Fracture resistance of prepared teeth restored with bonded inlay restorations. *J Prosthet Dent*, 2003. 89(6): p. 551-7.
- [54] Stokes, A.N. and J.A. Hood, Impact fracture characteristics of intact and crowned human central incisors. *J Oral Rehabil*, 1993. 20(1): p. 89-95.
- [55] Tagami, A., M.S. Chaar, S. Wille, J. Tagami, and M. Kern, Retention of posterior resin bonded fixed dental prostheses with different designs after chewing simulation. *J Mech Behav Biomed Mater*, 2021. 123: p. 104758.
- [56] Tagami, A., M.S. Chaar, W. Zhang, S. Wille, J. Tagami, and M. Kern, Retention durability of one-retainer versus two-retainer posterior RBFDPs after chewing simulation. *J Mech Behav Biomed Mater*, 2022. 133: p. 105353.
- [57] Upadhyaya, C. and M. Humagain, The pattern of tooth loss due to dental caries and periodontal disease among patients attending dental department (OPD), Dhulikhel Hospital, Kathmandu University Teaching Hospital (KUTH), Nepal. *Kathmandu Univ Med J (KUMJ)*, 2009. 7(25): p. 59-62.
- [58] Vailati, F. and U.C. Belser, Full-mouth adhesive rehabilitation of a severely eroded dentition: the three-step technique. Part 3. *Eur J Esthet Dent*, 2008. 3(3): p. 236-57.
- [59] van Dijken, J.W. and L. Hasselrot, A prospective 15-year evaluation of extensive dentin-enamel-bonded pressed ceramic coverages. *Dent Mater*, 2010. 26(9): p. 929-39.
- [60] Walls, A.W., The use of adhesively retained all-porcelain veneers during the management of fractured and worn anterior teeth: Part 1. Clinical technique. *Br Dent J*, 1995. 178(9): p. 333-6.
- [61] Yazigi, C., A. Elsayed, and M. Kern, Secure and precise insertion of minimally invasive resin-bonded fixed dental prostheses after ridge augmentation by means of a positioning splint. *J Esthet Restor Dent*, 2021. 33(3): p. 415-421.
- [62] Yazigi, C. and M. Kern, Clinical evaluation of zirconia cantilevered single-retainer resin-bonded fixed dental prostheses replacing missing canines and posterior teeth. *J Dent*, 2022. 116: p. 103907.
- [63] Yazigi, C., M. Kern, and M.S. Chaar, Influence of various bonding techniques on the fracture strength of thin CAD/CAM-fabricated occlusal glass-ceramic veneers. *J Mech Behav Biomed Mater*, 2017. 75: p. 504-511.
- [64] Yazigi, C., H. Schneider, M.S. Chaar, C. Ruger, R. Haak, and M. Kern, Effects of artificial aging and progression of cracks on thin occlusal veneers using SD-OCT. *J Mech Behav Biomed Mater*, 2018. 88: p. 231-237.
- [65] Zarone, F., S. Russo, and R. Sorrentino, From porcelain-fused-to-metal to zirconia: clinical and experimental considerations. *Dent Mater*, 2011. 27(1): p. 83-96.

- [66] Zimmerman, B., L. Datko, M. Cupelli, S. Alapati, D. Dean, and M. Kennedy, Alteration of dentin-enamel mechanical properties due to dental whitening treatments. *J Mech Behav Biomed Mater*, 2010. 3(4): p. 339-46.
- 

**ZMK 2026; 42 (6) S. 317**

**Optimiertes LISTERINE® Portfolio für die tägliche Mundhygiene**

- [1] IDZ (Institut der Deutschen Zahnärzte). 6. Deutsche Mundgesundheitsstudie (DMS • 6) [Internet]. Köln; 2025 [zitiert am 30. Apr. 2025]. Verfügbar unter: <https://www.Deutsche-Mundgesundheitsstudie.de/>. Jahrgang, April 2026 p. 35.
- [2] Gurenlian JR. The role of dental biofilm in oral health. *J Dent Hyg.* 2007; Special supplement: 4-12
- [3] S3-Leitlinie: Häusliches chemisches Biofilmmangement in der Prävention und Therapie der Gingivitis. AWMF-Registernummer: 083-016, Stand: November 2018, Amendment: Dezember 2020.
- [4] Fine DH et al. Effect of an essential oil-containing antimicrobial mouthrinse on specific plaque bacteria in vivo. *J Clin Periodontol* 2007; 34: 652-657.
- [5] Fine DH et al. Effect of rinsing with an essential oil-containing mouthrinse on subgingival periodontopathogens. *J Periodont* 2007; 78: 1935-1942
- [6] Pan PC et al. In-vitro evidence for efficacy of antimicrobial mouthrinses. *J Dent* 2010; 38 Suppl 1 (Suppl 1): S. 16-20
-