

ZMK 4/2022 (38), 176-179

Prof. Dr. Claus-Peter Ernst

Omnichroma Flow: die perfekte Ergänzung zum pastösen Original

- [1] Allgeier S, Hahn B, Krastl G. Direkte Frontzahnrestaurationen aus Komposit. Wissen Kompakt 2019; 13 (3): 1903-112.
- [2] Araujo E, Perdigao J. Anterior Veneer Restorations – An Evidence-based Minimal-Intervention Perspective. J Adhes Dent. 2021; 23: 91-110.
- [3] Báez Rosales A, De Nordenflycht Carvacho D, Schlieper Cacciutolo R, Gajardo Guineo M, Gandarillas Fuentes C. Conservative Approach for the Esthetic Management of Multiple Interdental Spaces: A Systematic Approach. J Esthet Restor Dent. 2015, 27: 344-354.
- [4] D'Arcangelo, C, Vanini, L & Rondoni, Gd & Pirani, M, Gattone, M. Wear Properties of a Novel Resin Composite Compared to Human Enamel and Other Restorative Materials. Oper Dent. 2014; 39. 10.2341/13-108-L.
- [5] Demarco FF, Collares K, Coelho-de-Souza FH, Correa MB, Cenci MS, Moraes RR, Opdam NJ. Anterior composite restorations: A systematic review on long-term survival and reasons for failure. Dent Mater. 2015; 31: 1214-1224.
- [6] Devoto W, Saracinelli M., Manauta J. Composite in everyday practice: how to choose the right material and simplify application techniques in the anterior teeth. Eur J Esthet Dent. 2010; 5: 102.
- [7] Ernst CP. Der neue Trend zum Minimalismus. Einfache Schichtung ästhetischer Frontzahnrestaurationen – trotz oder wegen reduzierter Farbpalette? ZMK 2008; 24: 330-339
- [8] Ernst CP. Direkte Frontzahnrestaurationen aus Komposit - aktuelle Studienlage und Fallbeispiele. ZMK 2017; 33; 2-8.
- [9] Ernst CP. Schichtkonzepte bei vereinfachten Frontzahnkomposit-Systemen. ZMK 2018; 34: 570-591.
- [10] Ernst CP. Ein einziges Komposit – eine Farbe für alles? ZMK 2019; 35: 783-785.
- [11] Ernst CP. Ein praxistaugliches neues Schichtkonzept für Ceram.x Spectra ST ZMK 2020; 36: 48-59.
- [12] Ernst CP. Diastemaschluss mit einer einzigen Universalfarbe. ZMK 2020; 36: 220-225.
- [13] Ernst CP. Zervikale Approximalanbauten. ZMK 2020; 36: 368-375.
- [14] Ernst CP. Haltbarkeit von direkten Kompositaufbauten an Schneidezähnen nach FZT-Versorgung. ZMK 2021; 37: 90-102.
- [15] Ernst CP. Fallbeispiele zum ästhetischen Indikationsspektrum von Tetric Prime im Frontzahnbereich. ZMK 2021; 37 (9): 542-552.
- [16] Frese C, Schiller P, Staehle HJ. Wolff D. Recontouring teeth and closing diastemas with direct composite buildups: a 5-year follow-up. J Dent. 2013; 41: 979-985.
- [17] Hahn B, Soliman S, Allgeier S, Krastl G. Direkte ästhetische Restaurationen im Frontzahngebiet. Der Freie Zahnarzt 2021; 65 (12): 60-678.
- [18] Hajto J. Freud und Leid mit direktem Komposit. Teil 1: Adhäsive, Indikationsstellung und Chamäleoneffekt. Teamwork 2006; 9: 50-63.

- [19] Hajto J. Freud und Leid mit direktem Komposit. Teil 2: Schichttechnik, Versorgung multipler Füllungen im Frontzahnbereich. Teamwork 2006; 9: 86-97.
- [20] Heintze SD, Rousson V, Hickel R. Clinical effectiveness of direct anterior restorations--a meta-analysis. Dent Mater. 2015; 31: 481-495.
- [21] Hugo B. Optimale Approximalkontakte – Neue approximale Matrizen- und Aufbautechnik bei Frontzahnfüllungen. Ästhetische Zahnmedizin 2001; 3: 241-250.
- [22] Hugo B. Ästhetik mit Komposit. Quintessenz Verlags GmbH, Berlin, 2008 ISBN 978-3938947-55-59.
- [23] Klaff MP, Ward GT. Composite technic for restoration of malformed teeth. Dent Surv. 1973; 49: 34-36.
- [24] Klaiber B. Alles noninvasiv - Zahnformveränderung, Lückenschluss, Reduktion schwarzer Dreiecke. zm 2006; 96: 52-59.
- [25] Krastl G, Weiger R. Frontzahnrestorationen: Brauchen wir überhaupt Keramik? Die Quintessenz 2010; 61. 511-520.
- [26] Krastl G. Composite – das Mittel der Wahl. ZWP 2011; 11: 74-78.
- [27] Lenhard M. Ästhetische Frontzahnrestorationen mit Komposit. Quintessenz 2004; 55: 961-976.
- [28] Lenhard M. Diastemaschluss mit Kompositrestorationen. Eur J Esthet Dent. 2008; 3: 282-292.
- [29] Lühns AK. Diastemaschluss mittels direkter Technik im Frontzahnbereich. Deutsch Zahnärztl Z 2011; 66, 628-635.
- [30] Opdam NJ, Roeters JJ, de Boer T, Pesschier D, Bronkhorst E. Voids and porosities in class I micropreparations filled with various resin composites. Oper Dent. 2003; 28: 9-14.
- [31] Romero MF. Esthetic anterior composite resin restorations using a single shade: Step-by-step technique. J Prosthet Dent. 2015; 114: 9-12.
- [32] Vichi A. et al. Influence of thickness on color in multi-layering technique. Dent. Mater. 2007; 23 (12): 1584-1589.
- [33] Villarroel M, Fahl N, De Sousa AM, De Oliveira OB Jr. Direct esthetic restorations based on translucency and opacity of composite resins. J Esthet Restor Dent. 2011; 23 (2): 73-87.
- [34] Vanini L, Mangani F, Klimovskaia O. Conservative Restoration of Anterior Teeth. ACME-Verlag 2007; 2. Auflage.
- [35] Wicht MJ, Wolff D. Matrizentechnik – physiologische Gestaltung approximaler Kontaktflächen im Front- und Seitenzahnbereich. Quintessenz 2016; 67 (4): 1-10.

[1] Anand P, Wilson R, Sheehy EC. Intraligamental analgesia for post-operative pain control in children having dental extractions under general anaesthesia. Eur J Paed Dent. 2005; 1: 10-15.

[2] Aderhold L, Leilich G. Allgemeine Operationslehre. In: Frenkel G, Aderhold L, Lambrecht T, Leilich G, Raetzke P (Hrsg.). Die ambulante Chirurgie des Zahnarztes. Carl Hanser Verlag, München Wien. 1997.

[3] Bourdin Ch-L. L'Anesthésie par l'injection intra-ligamentaire pour l'extraction des dents. Thèse de Doctorat, Editions de la Semaine Dentaire, Paris, 1925.

[4] Brännström M, Lindskog S, Nordenvall K-J. Enamel hypoplasia in permanent teeth induced by periodontal ligament anesthesia in primary teeth. J Am Dent Assoc. 1984; 109: 735-736.

[5] Chompret L. Anesthésie par injections intraligamenteuses. Rev Stomatol Chir Maxillofac. 1920; 6: 309-312.

[6] Davidson L, Craig S. The use of the periodontal ligament injection in children. J Dent. 1987; 15: 204-208.

[7] Dirnbacher T. ILA vs. Leitungs- und Infiltrationsanästhesie in der Praxis. Dissertation, Jena, 2002.

[8] Dirnbacher T, Taubenheim L. Erfolgreiche intraligamentäre Anästhesie: Instrumente – Anästhetika – Methoden-Beherrschung. Wehrmed Mschr. 2005; 9: 202-206.

[9] Dirnbacher T, Weber M. Dispositionsfähigkeit der Truppe nach zahnärztlicher Lokalanästhesie. Wehrmed u Wehrpharm 2006; 2: 82-84 und 4: 20-26.

[10] Einwag J. Die intraligamentäre Anästhesie im Kindes- und Jugendalter. Dtsch Zahnärztl Z. 1982; 37: 874-876.

[11] Einwag J. Die intraligamentäre Anästhesie. Zahnärztl Mitt. 1985; 7: 693-696.

[12] Endo T, Gabka J, Taubenheim L. Intraligamentary anesthesia: Benefits and limitations. Quintessence International 2008; 1: 15-26.

[13] Endo T, Gabka J, Taubenheim L. Intraligamentäre Anästhesie: Nutzen und Grenzen. Quintessenz 2008; 6: 643-653.

[14] Faulkner RK. The high-pressure periodontal ligament injection. Br Dent J. 1983; 154: 103-105.

- [15] Frenkel G. Möglichkeiten und Grenzen der intraligamentären Anästhesie. In: Zahnärztliche Lokalanästhesie heute. Zwei Jahrzehnte Articain. Aktuelles Wissen Hoechst 1989; 65-71.
- [16] Fuhs QM, Walker WA, Gough RW, Schindler WG, Hartman KS. The periodontal ligament injection: Histological effects on the periodontium in dogs. J Endod. 1983; 9: 411-415.
- [17] Galili D, Kaufman E, Garfunkel AA, Michaeli Y. Intraligamentary anesthesia – a histological study. Int J Oral Surg. 1984; 13: 511-516.
- [18] Garfunkel AA, Kaufman E, Marmary Y, Galili D. Intraligamentary – intraosseous anaesthesia. A radiographic demonstration. Int. J. Oral Surg, 1983; 12: 334-339.
- [19] Garfunkel AA, Kaufman E, Galili D. Intraligamentary anesthesia (transligamentary anesthesia) for health compromised patients. Gerodontology 1985; 1: 63-64.
- [20] Giovannitti JA, Nique TA. Status report: the periodontal ligament injection. J Am Dent Assoc. 1983; 106: 222-224.
- [21] Glockmann E, Glockmann I, Kulick R, Apostel G. Schmerzreduktion und Schmerzausschaltung bei der Kavitätenpräparation und endodontischen Therapie. Klinische Erfahrungen mit der intraligamentären Anästhesie. Aktuelles Wissen Hoechst 1998; 137-143.
- [22] Glockmann E, Dirnbacher T, Taubenheim L. Die intraligamentäre Anästhesie – Alternative zur konventionellen Lokalanästhesie? Quintessenz 2005; 56: 207-216.
- [23] Glockmann E, Weber M, Taubenheim L. Schmerzausschaltung vor Vitalexstirpation. Endodontie 2007; 16 (3):197-204.
- [24] Glockmann E, Taubenheim L. Die intraligamentäre Anästhesie. Thieme, Stuttgart New York, 2002.
- [25] Gray RJM, Lomax AM, Rood JP. Periodontal ligament injection: with or without a vasoconstrictor? Br Dent J. 1987; 162: 263-265.
- [26] Heizmann R. Die intraligamentäre zahnärztliche Lokalanästhesie im Vergleich zu den üblichen Anästhesieformen bei der Zahnextraktion (unter besonderer Berücksichtigung ihrer Verträglichkeit, der trockenen Alveole und dem dolor post extractionem). Dissertation, Freie Universität Berlin, 1987.
- [27] Heizmann R, Gabka J. Nutzen und Grenzen der intraligamentären Anästhesie. Zahnärztl Mitt. 1994; 84: 46-50.
- [28] Huber HP, Wilhelm-Höft C. Auswirkungen der intraligamentären Anästhesie auf die Zahnbeweglichkeit. Dtsch Zahnärztl Z. 1988; 43: 313-316.

- [29] Husen van N, Horn A, Wagner H. Krankheiten des Herzens. In: Wagner H, Husen van N (Hrsg.): Innere Medizin für Zahnmediziner: 1–24. Thieme, Stuttgart New York, 1997.
- [30] Husson R, Caux Y, Maquin M. L'anesthésie intraligamentaire. Rev Fr Endod. 1985; 4: 29-36.
- [31] Kaltenbach M, Glockmann E, Taubenheim L. Zahnarzthaftung: Thematisierung der Risiken und Alternativen der Leitungsanästhesie. Zahnärztebl R-Pf. 2006; 9: 68-70.
- [32] Kaufman E, Galili D, Garfunkel AA. Intraligamentary anesthesia: A clinical study. J Prosthet Dent. 1983; 49: 337-339.
- [33] Knirsch W, Adam M, Vogel, Lange PE, Finke Ch. So erkennen und schützen Sie Ihren Endokarditis-Risikopatienten. Zahnärztl Mitt. 1999; 89: 46-51.
- [34] Lin L, Lapeyrolerie M, Skribner J, Shovlin F. Periodontal ligament injection: effects on pulp tissue. J Endodont. 1985; 11: 529-534.
- [35] Littner MM, Tamse A, Kaffe I. A new technique of selective anesthesia diagnosing acute pulpitis in the mandible. J Endodont. 1983 ; 9: 116-119.
- [36] Malamed SF. The periodontal ligament (PDL) injection: An alternative to inferior alveolar nerve block. Oral Surg. 1982; 53: 117-121.
- [37] Marshall M. Die intraligamentäre Anästhesie mit dem Soft.Ject zur Ermittlung der Praxistauglichkeit. Dissertation, München, 2001.
- [38] Plagmann H-Chr, Jagenow U. Tierexperimentelle Studie zur Reaktion der desmodontalen Gewebe auf intraligamentäre Injektion. Dtsch Zahnärztl Z. 1984; 39: 677-682.
- [39] Plagmann H-Chr. Möglichkeiten und Grenzen der intraligamentären Anästhesie (ILA). Quintessenz 1987; 38: 1711-1721.
- [40] Prothmann M. Die intraligamentäre Anästhesie vs. Leitungs- und Infiltrationsanästhesie unter besonderer Betrachtung des Aspekts der Generierung von druckbedingten Schäden am Parodontium durch intraligamentale Injektionen bei parodontal vorgeschädigten Patienten. Dissertation, Aachen, 2008.
- [41] Rahn R, Frenkel G, Atamni F, Shah PM, Schäfer V. Bakteriämie nach intradesmodontaler Anästhesie. Schweiz Monatsschr Zahnmed. 1987; 97: 859-863.
- [42] Schwenzer N, Ehrenfeld M. Zahn-Mund-Kiefer-Heilkunde – Band 3: Zahnärztliche Chirurgie. Thieme, Stuttgart New York, 2000.
- [43] Simon DE, Jacobs TL, Senia ES, Walker WA. Intraligamentary anesthesia: Aid in endodontic diagnosis. Oral Surg Oral Med Oral Pathol. 1982; 54: 77-78.

- [44] Stoll P, Bührmann K. Die intraligamentäre Anästhesie bei der Zahnextraktion von Patienten mit hämorrhagischer Diathese. Zahnärztl Welt/Reform 1983; 92, 54-55.
- [45] Stoll P, Krekeler G, Bührmann K. Lokale Schmerzausschaltung bei hämorrhagischer Diathese. Dtsch Zahnärztl Z. 1986; 41:405-407.
- [46] Tagger M, Tagger E, Sarnat H. Periodontal ligament injection – spread of the solution in the dog. J Endod. 1994; 20: 283-287.
- [47] Taubenheim L, Glockmann E. Zahnmedizinische Konsequenzen der Rechtsprechung zur Haftung des Zahnarztes bei Nervschädigung durch Leitungsanästhesie. MedR. 2006; 6: 323-330.
- [48] Tobien V, Schulz D. Veränderte intradesmodontale Injektion. ZMK 2000; 5: 332-333.
- [49] Tsirlis AT, Iakovidis DP, Parissis NA. Dry socket: Frequency of occurrence after intraligamentary anesthesia. Quintessence International 1992; 23: 575-577.
- [50] Walton RE, Abbott BJ. Periodontal ligament injection: a clinical evaluation. J Am Dent Assoc. 1981; 103: 571-575.
- [51] Walton RE, Garnick JJ. The periodontal ligament injection: histologic effects on the periodontium in monkeys. J Endod. 1982; 8: 22-26.
- [52] Weber M. Reduzierung der unerwünschten Nebeneffekte bei der zahnärztlichen Lokalanästhesie unter besonderer Berücksichtigung der Erfordernisse für endodontische Maßnahmen. Dissertation, Jena, 2005.
- [53] Weber M, Taubenheim L, Glockmann E. Schmerzausschaltung vor indizierten endodontischen Behandlungen. ZWR 2006; 10: 421-433.
- [54] Zugal W. Die intraligamentäre Anästhesie in der zahnärztlichen Praxis. Zahnärztl Mitt. 2001; 6: 46-52.
- [55] Zugal W, Taubenheim L, Schulz D. Triade des Anästhesie-Erfolgs: Instrumente – Anästhetika – Methoden Beherrschung. Z Stomatol. 2005; 102.1: 9-14.
- [56] Zugal W, Taubenheim L. Komplikationen und Grenzen der intraligamentären Anästhesie. Z Stomatol. 2008; 105.8: 187-195.

Nicht-allergiebedingte dentale und orofaziale Befunde bei 625 Patienten mit Verdacht auf Unverträglichkeit gegenüber Dentalmaterialien

- [1] Jacobsen N, Hensten-Pettersen A. Occupational health problems and adverse patient reactions in orthodontics. *Eur J Orthod* 1989;11:254–64, <http://dx.doi.org/10.1093/oxfordjournals.ejo.a035993>.
- [2] Jacobsen N, Pettersen Ah. Occupational health problems and adverse patient reactions in periodontics. *J Clin Periodontol* 1989;16:428–33, <http://dx.doi.org/10.1111/j.1600-051X.1989.tb01671.x>.
- [3] Hensten-Pettersen A, Jacobsen N. Perceived side effects of biomaterials in prosthetic dentistry. *J Prosthet Dent* 1991;65:138–44, [http://dx.doi.org/10.1016/0022-3913\(91\)90066-6](http://dx.doi.org/10.1016/0022-3913(91)90066-6).
- [4] Raap U, Stiesch M, Reh H, Kapp A, Werfel T. Investigation of contact allergy to dental metals in 206 patients. *Contact Derm* 2009;60:339–43, <http://dx.doi.org/10.1111/j.1600-0536.2009.01524.x>.
- [5] Raap U, Stiesch M, Kapp A. Contact allergy to dental materials. *J Dtsch Dermatol Ges* 2012;10:391–6, <http://dx.doi.org/10.1111/j.1610-0387.2012.07933.x>.
- [6] Gawkrödger DJ. Investigation of reactions to dental materials. *Br J Dermatol* 2005;153:479–85, <http://dx.doi.org/10.1111/j.1365-2133.2005.06821.x>.
- [7] Garhammer P, Schmalz G, Hiller K-A, Reitingner T, Stolz W. Patients with local adverse effects from dental alloys: frequency, complaints, symptoms, allergy. *Clin Oral Investig* 2001;5:240–9, <http://dx.doi.org/10.1007/s007840100127>.
- [8] Mittermüller P, Hiller K-A, Schmalz G, Buchalla W. Five hundred patients reporting on adverse effects from dental materials: frequencies, complaints, symptoms, allergies. *Dent Mater* 2018;34:1756–68, <http://dx.doi.org/10.1016/j.dental.2018.09.012>.
- [9] Schedle A, Örtengren U, Eidler N, Gabauer M, Hensten A. Do adverse effects of dental materials exist? What are the consequences, and how can they be diagnosed and treated? *Clin Oral Implants Res* 2007;18(Suppl 3):232–56, <http://dx.doi.org/10.1111/j.1600-0501.2007.01481.x>.
- [10] Kallus T, Mjör IA. Incidence of adverse effects of dental materials. *Eur J Oral Sci* 1991;99:236–40, <http://dx.doi.org/10.1111/j.1600-0722.1991.tb01890.x>.
- [11] Felton DA, Kanoy BE, Bayne SC, Wirthman GP. Effect of in vivo crown margin discrepancies on periodontal health. *J Prosthet Dent* 1991;65:357–64, [http://dx.doi.org/10.1016/0022-3913\(91\)90225-I](http://dx.doi.org/10.1016/0022-3913(91)90225-I).
- [12] Krogh-Poulsen W. The functional analysis (Die Bewegungsanalyse). *Dtsch Zahnärztl Z* 1966;21:877–80.
- [13] Krogh-Poulsen W. Relations between localization of abrasion facets and pain in the masticatory musculature and its significance for diagnostics and treatment (Zusammenhänge zwischen Lokalisation von Abrasionsfacetten und

Schmerzen in der Kaumuskulatur und deren Bedeutung für Diagnostik und Behandlung). *Österr Z Stomatol* 1967;64:402–4.

[14] Navazesh M, Kumar SKS, University of Southern California School of Dentistry. Measuring salivary flow: challenges and opportunities. *J Am Dent Assoc* 2008;139(Suppl):35S–40S, <http://dx.doi.org/10.14219/jada.archive.2008.0353>.

[15] Saxer UP, Mühlemann HR. Motivation and education (Motivation und Aufklärung). *Schweiz Monatsschr Zahnmed* 1975;85:905.

[16] Jordan AR, Micheelis W. The Fifth German Oral Health Study (Fünfte Deutsche Mundgesundheitsstudie, DMS V); 2016.

[17] Lygre GB, Gjerdet NR, Grønningsaeter AG, Björkman L. Reporting on adverse reactions to dental materials— intraoral observations at a clinical follow-up. *Commun Dent Oral Epidemiol* 2003;31:200–6, <http://dx.doi.org/10.1034/j.1600-0528.2003.00037.x>.

[18] Lynde CB, Grushka M, Walsh SRA. Burning mouth syndrome: patch test results from a large case series. *J Cutan Med Surg* 2014;18:174–9, <http://dx.doi.org/10.2310/7750.2013.13096>.

[19] Scott A, Egner W, Gawkrödger DJ, Hatton PV, Sherriff M, vanNoort R, et al. The national survey of adverse reactions to dental materials in the UK: a preliminary study by the UK adverse reactions reporting project. *Br Dent J* 2004;196:471–7, <http://dx.doi.org/10.1038/sj.bdj.4811176>. [20] Langworth S, Björkman L, Elinder C-G, Järup L, Savlin P. Multidisciplinary examination of patients with illness attributed to dental fillings. *J Oral Rehabil* 2002;29:705–13, <http://dx.doi.org/10.1046/j.1365-2842.2002.00963.x>. [21] Meurman JH, Tarkkila L, Tiitinen A. The menopause and oral health. *Maturitas* 2009;63:56–62, <http://dx.doi.org/10.1016/j.maturitas.2009.02.009>. [22] Tillberg A, Berglund A, Mårell L, Bergdahl J, Eriksson N, Lindén G, et al. Changes in health over time in patients with symptoms allegedly caused by their dental restorative materials. *Commun Dent Oral Epidemiol* 2005;33:427–37, <http://dx.doi.org/10.1111/j.1600-0528.2005.00240.x>.

[23] Tillberg A, Mårell L, Berglund A, Eriksson N. Replacement of restorations in subjects with symptoms associated with dental restorations; a follow-up study. *Eur J Oral Sci* 2008;116:362–8, <http://dx.doi.org/10.1111/j.1600-0722.2008.00553.x>.

[24] Trombelli L, Farina R, Silva CO, Tatakis DN. Plaque-induced gingivitis: case definition and diagnostic considerations. *J Clin Periodontol* 2018;45(Suppl 20):S44–67, <http://dx.doi.org/10.1111/jcpe.12939>.

[25] Aarabi G, Reissmann DR, Seedorf U, Becher H, Heydecke G, Kofahl C. Oral health and access to dental care—a comparison of elderly migrants and non-migrants in Germany. *Ethn Health* 2018;23:703–17, <http://dx.doi.org/10.1080/13557858.2017.1294658>.

[26] Vamnes JS, Lygre GB, Grønningsaeter AG, Gjerdet NR. Four years of clinical experience with an adverse reaction unit for dental biomaterials. *Commun Dent Oral Epidemiol* 2004;32:150–7, <http://dx.doi.org/10.1111/j.0301-5661.2004.00148.x>.

- [27] Klein B, Thoppay JR, De Rossi SS, Ciarrocca K. Burningmouth syndrome. *Dermatol Clin* 2020;38:477–83,<http://dx.doi.org/10.1016/j.det.2020.05.008>.
- [28] Fark T, Hummel C, Hähner A, Nin T, Hummel T. Characteristics of taste disorders. *Eur Arch Otorhinolaryngol* 2013;270:1855–60,<http://dx.doi.org/10.1007/s00405-012-2310-2>.
- [29] Kolkka-Palomaa M, Jääskeläinen SK, Laine MA, Teerijoki-Oksa T, Sandell M, Forssell H. Pathophysiology of primary burning mouth syndrome with special focus on taste dysfunction: a review. *Oral Dis* 2015;21:937–48,<http://dx.doi.org/10.1111/odi.12345>.
- [30] Verhulst MJL, Loos BG, Gerdes VEA, Teeuw WJ. Evaluating all potential oral complications of diabetes mellitus. *Front Endocrinol* 2019;10:56,<http://dx.doi.org/10.3389/fendo.2019.00056>.
- [31] Scully C, Bagan J-V. Adverse drug reactions in the orofacial region. *Crit Rev Oral Biol Med* 2004;15:221–39,<http://dx.doi.org/10.1177/154411130401500405>.
- [32] Nederfors T, Isaksson R, Mörnstad H, Dahlöf C. Prevalence of perceived symptoms of dry mouth in an adult Swedish population—relation to age, sex and pharmacotherapy. *Commun Dent Oral Epidemiol* 1997;25:211–6, <http://dx.doi.org/10.1111/j.1600-0528.1997.tb00928.x>.
- [33] Eveson JW. Xerostomia. *Periodontol* 2000 2008;48:85–91,<http://dx.doi.org/10.1111/j.1600-0757.2008.00263.x>.
- [34] Mårell L, Bergdahl J, Tillberg A, Stenberg B, Berglund A. Psychological symptoms and self-image of patients with complaints attributed to dental restorative materials. *Clin Oral Investig* 2019;23:2805–11,<http://dx.doi.org/10.1007/s00784-018-2707-4>.
- [35] Türp JC, Schindler HJ. Screening for temporomandibular disorders A sensible approach? *Schmerz* 2020;34:13–20,<http://dx.doi.org/10.1007/s00482-019-00432-1>.
- [36] Kim Y, Kim H, Kho HS. Characteristics of men and premenopausal women with burning mouth symptoms: a case–control study. *Headache* 2014;54:888–98,<http://dx.doi.org/10.1111/head.12338>.
- [37] Jiménez-Silva A, Peña-Durán C, Tobar-Reyes J, Frugone-Zamora R. Sleep and awake bruxism in adults and its relationship with temporomandibular disorders: a systematic review from 2003 to 2014. *Acta Odontol Scand* 2017;75:36–58,<http://dx.doi.org/10.1080/00016357.2016.1247465>.
- [38] De Luca Canto G, Singh V, Bigal ME, Major PW, Flores-Mir C. Association between tension-type headache and migraine with sleep bruxism: a systematic review. *Headache* 2014;54:1460–9, <http://dx.doi.org/10.1111/head.12446>.
- [39] Mundt T, Mack F, Schwahn C, Bernhardt O, Kocher T, Biffar R. Association between sociodemographic, behavioral, and medical conditions and signs of temporomandibular disorders across gender: results of the study of health in Pomerania (SHIP-0). *Int J Prosthodont* 2008;21:141–8.
- [40] Gesch D, Bernhardt O, Alte D, Kocher T, John U, Hensel E. Malocclusions and clinical signs or subjective symptoms of temporomandibular disorders (TMD) in adults.

Results of the population-based Study of Health in Pomerania (SHIP). *J Orofac Orthop* 2004;65:88–103, <http://dx.doi.org/10.1007/s00056-004-0338-7>.

[41] Shulman JD, Beach MM, Rivera-Hidalgo F. The prevalence of oral mucosal lesions in U.S. adults: data from the third national health and nutrition examination survey, 1988–1994. *J Am Dent Assoc* 2004;135:1279–86, <http://dx.doi.org/10.14219/jada.archive.2004.0403>.

[42] Cerchiari DP, de Moricz RD, Sanjar FA, Rapoport PB, Moretti G, Guerra MM. Burning mouth syndrome: etiology. *Braz J Otorhinolaryngol* 2006;72:419–23, [http://dx.doi.org/10.1016/s1808-8694\(15\)30979-4](http://dx.doi.org/10.1016/s1808-8694(15)30979-4).

[43] Picciani B, Santos V de C, Teixeira-Souza T, Izahias LM, Curty Á, Avelleira JC, et al. Investigation of the clinical features of geographic tongue: unveiling its relationship with oral psoriasis. *Int J Dermatol* 2017;56:421–7, <http://dx.doi.org/10.1111/ijd.13460>.

[44] González-Moles MÁ, Warnakulasuriya S, González-Ruiz I, González-Ruiz L, Ayén Á, Lenouvel D, et al. Worldwide prevalence of oral lichen planus: a systematic review and meta-analysis. *Oral Dis* 2020, <http://dx.doi.org/10.1111/odi.13323>.

[45] Li C, Tang X, Zheng X, Ge S, Wen H, Lin X, et al. Global prevalence and incidence estimates of oral lichen planus: a systematic review and meta-analysis. *JAMA Dermatol* 2020;156:172–81, <http://dx.doi.org/10.1001/jamadermatol.2019.3797>.

[46] Scully C, Beyli M, Ferreira MC, Ficarra G, Gill Y, Griffiths M, et al. Update on oral lichen planus: etiopathogenesis and management. *Crit Rev Oral Biol Med* 1998;9:86–122, <http://dx.doi.org/10.1177/10454411980090010501>.

[47] Alrashdan MS, Cirillo N, McCullough M. Oral lichen planus: a literature review and update. *Arch Dermatol Res* 2016;308:539–51, <http://dx.doi.org/10.1007/s00403-016-1667-2>.

[48] Vilar-Villanueva M, Gándara-Vila P, Blanco-Aguilera E, Otero-Rey EM, Rodríguez-Lado L, García-García A, et al. Psychological disorders and quality of life in oral lichen planus patients and a control group. *Oral Dis* 2019;25:1645–51, <http://dx.doi.org/10.1111/odi.13106>. [49] Müller N, Pröschel P. Crown margin and periodontal reaction (Kronenrand und parodontale Reaktion). *Dtsch Zahnärztl Z* 1994;49:30–6.

[50] Knoernschild KL, Campbell SD. Periodontal tissue responses after insertion of artificial crowns and fixed partial dentures. *J Prosth Dent* 2000;84:492–8, <http://dx.doi.org/10.1067/mpr.2000.110262>.

[51] Donath K, Roth K. Histologic-morphometric studies to determine the cervical marginal fit of single and pontic crowns (Histologisch-morphometrische Studie zur Bestimmung des zervikalen Randschlusses von Einzel- und Pfeilerkronen). *Z Stomatol* 1987;84:53–73.

[52] Cifuentes M, Davari P, Rogers RS. Contact stomatitis. *Clin Dermatol* 2017;35:435–40, <http://dx.doi.org/10.1016/j.clindermatol.2017.06.007>.

- [53] Imam Al H, Özhatay EB, Benetti AR, Pedersen AML, Gottfredsen K. Oral health-related quality of life and complications after treatment with partial removable dental prosthesis. *J Oral Rehabil* 2016;43:23–30, <http://dx.doi.org/10.1111/joor.12338>.
- [54] GBD 2017 Oral Disorders Collaborators, Bernabé E, Marcenes W, Hernandez CR, Bailey J, Abreu LG, et al. Global, regional, and national levels and trends in burden of oral conditions from 1990 to 2017: a systematic analysis for the global burden of disease 2017 study. *J Dent Res* 2020;99:362–73, <http://dx.doi.org/10.1177/0022034520908533>.
- [55] James SL, Abate D, Abate KH, Abay SM, Abbafati C, Abbasi N, et al. Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990–2017: a systematic analysis for the global burden of disease study 2017. *Lancet* 2018;392:1789–858, [http://dx.doi.org/10.1016/S0140-6736\(18\)32279-7](http://dx.doi.org/10.1016/S0140-6736(18)32279-7).
- [56] Gendreau L, Loewy ZG. Epidemiology and etiology of denture stomatitis. *J Prosthodont* 2011;20:251–60, <http://dx.doi.org/10.1111/j.1532-849X.2011.00698.x>.
- [57] Hahnel S, Schwarz S, Zeman F, Schäfer L, Behr M. Prevalence of xerostomia and hyposalivation and their association with quality of life in elderly patients in dependence on dental status and prosthetic rehabilitation: a pilot study. *J Dent* 2014;42:664–70, <http://dx.doi.org/10.1016/j.jdent.2014.03.003>.
- [58] Barbe AG. Medication-induced xerostomia and hyposalivation in the elderly: culprits, complications, and management. *Drugs Aging* 2018;35:877–85, <http://dx.doi.org/10.1007/s40266-018-0588-5>.
- [59] Flink H, Bergdahl M, Tegelberg A, Rosenblad A, Lagerlöf F. Prevalence of hyposalivation in relation to general health, body mass index and remaining teeth in different age groups of adults. *Commun Dent Oral Epidemiol* 2008;36:523–31, <http://dx.doi.org/10.1111/j.1600-0528.2008.00432.x>.
- [60] Schmalz G, Garhammer P. Biological interactions of dental cast alloys with oral tissues. *Dent Mater* 2002;18:396–406, [http://dx.doi.org/10.1016/s0109-5641\(01\)00063-x](http://dx.doi.org/10.1016/s0109-5641(01)00063-x).
- [61] Taylor TD, Morton TH. Ulcerative lesions of the palate associated with removable partial denture castings. *J Prosthet Dent* 1991;66:213–21, [http://dx.doi.org/10.1016/s0022-3913\(05\)80050-2](http://dx.doi.org/10.1016/s0022-3913(05)80050-2).
- [62] Garhammer P, Schmalz G, Hiller K-A, Reitingner T. Metal content of biopsies adjacent to dental cast alloys. *Clin Oral Dent Mater* 2003;7:92–7, <http://dx.doi.org/10.1007/s00784-003-0204-9>.
- [63] Garhammer P, Hiller K-A, Reitingner T, Schmalz G. Metal content of saliva of patients with and without metal restorations. *Clin Oral Investig* 2004;8:238–42, <http://dx.doi.org/10.1007/s00784-004-0281-4>.
- [64] Petoumenou E, Arndt M, Keilig L, Reimann S, Hoederath H, Eliades T, et al. Nickel concentration in the saliva of patients with nickel-titanium orthodontic appliances. *Am J Orthod Dentofacial Orthop* 2009;135:59–65, <http://dx.doi.org/10.1016/j.ajodo.2006.12.018>. View publication stats

1. Deutsche Gesellschaft für Ernährung. Ernährung im hohen Alter. 3. Bonn; 2010.
2. World Health Organization. Ageing and Life Course [Internet]. [zitiert 28. Januar 2020]. Verfügbar unter: <https://www.who.int/healthinfo/survey/ageingdefnolder/en/>
3. Statistisches Bundesamt. Statistisches Jahrbuch für die Bundesrepublik Deutschland. Wiesbaden; 2006.
4. Reissmann DR, Lamprecht R. Zahn- und Mundgesundheit im Alter. 1. Aufl. Berlin: de Gruyter; 2017. (Praxiswissen Gerontologie und Geriatrie kompakt; Bd. 9).
5. Xu F, Laguna L, Sarkar A. Aging-related changes in quantity and quality of saliva: Where do we stand in our understanding? J Texture Stud. Februar 2019;50(1):27–35.
6. Ogawa T, Uota M, Ikebe K, Arai Y, Kamide K, Gondo Y, et al. Longitudinal study of factors affecting taste sense decline in old-old individuals. J Oral Rehabil. Januar 2017;44(1):22–9.
7. Volkert D. Ernährung im Alter. Berlin/Boston: de Gruyter; 2015. (Praxiswissen Gerontologie und Geriatrie Kompakt; Bd. 4).
8. Zglinicki T. Alter und Altern. In: Physiologie des Menschen; Brandes, R, Lang, F, Schmidt, R F (Hrsg). 32. Aufl. Berlin, Heidelberg: Springer; 2019. S. 988–1003.
9. Dommisch H, Kerschull M, Jepsen S. Allgemeine Gesundheit und Parodontitis. Zahnärztl Mitt. 2017;(23–24).
10. Jordan R, Micheelis W. Fünfte Deutsche Mundgesundheitsstudie (DMS V). Deutscher Ärzte-Verlag; 2016. (Materialienreihe; Bd. 35).
11. Schüler I. Die Fähigkeit zur Zahn- und Prothesenreinigung von geriatrischen Patienten schnell und einfach testen. Gesundheitswesen. 2019;81(3):258 (Abstr.).
12. Both T, Dalm VASH, van Hagen PM, van Daele PLA. Reviewing primary Sjögren's syndrome: beyond the dryness - From pathophysiology to diagnosis and treatment. Int J Med Sci. 2017;14(3):191–200.
13. López-Pintor RM, Casañas E, González-Serrano J, Serrano J, Ramírez L, de Arriba L, et al. Xerostomia, Hyposalivation, and Salivary Flow in Diabetes Patients. J Diabetes Res. 2016;2016:4372852.
14. Hahnel S. Mundtrockenheit - Ursache, Diagnose, Therapie. Balingen: Spitta; 2012.

15. Delli K, Spijkervet FKL, Kroese FGM, Bootsma H, Vissink A. Xerostomia. *Monogr Oral Sci.* 2014;24:109–25.
16. Nederfors T, Isaksson R, Mörnstad H, Dahlöf C. Prevalence of perceived symptoms of dry mouth in an adult Swedish population – relation to age, sex and pharmacotherapy. *Community Dent Oral Epidemiol.* Juni 1997;25(3):211–6.
17. Kho HS, Lee SW, Chung SC, Kim YK. Oral manifestations and salivary flow rate, pH, and buffer capacity in patients with end-stage renal disease undergoing hemodialysis. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod.* September 1999;88(3):316–9.
18. Nguyen CT, Lin S, Clark H, Hovan A, Wu J. Salivary flow rate after conventional and intensity-modulated radiation therapy. *J Am Dent Assoc.* Juni 2018;149(6):432–41.
19. Kiche MS, Fayle SA, Curzon ME. A clinical trial comparing the effectiveness of a three-headed versus a conventional toothbrush for oral hygiene in children. *Eur J Paediatr Dent.* März 2002;3(1):33–8.
20. Winterfeld T, Schlueter N, Harnacke D, Illig J, Margraf-Stiksrud J, Deinzer R, et al. Toothbrushing and flossing behaviour in young adults – a video observation. *Clin Oral Investig.* 2015;19:851–8.
21. Ganss C, Duran R, Winterfeld T, Schlueter N. Tooth brushing motion patterns with manual and powered toothbrushes – a randomised video observation study. *Clin Oral Investig.* 2018;22(2):715–20.
22. Wainwright J, Sheiham A. An analysis of methods of toothbrushing recommended by dental associations, toothpaste and toothbrush companies and in dental texts. *Br Dent J.* August 2014;217:E5-.
23. Worthington HV, MacDonald L, Poplepovic Pericic T, Sambunjak D, Johnson TM, Imai P, u. a. Home use of interdental cleaning devices, in addition to toothbrushing, for preventing and controlling periodontal diseases and dental caries. *Cochrane Database Syst Rev.* 10. April 2019;4(4):CD012018.
24. Abouassi T, Woelber JP, Holst K, Stampf S, Doerfer CE, Hellwig E, u. a. Clinical efficacy and patients' acceptance of a rubber interdental bristle. A randomized controlled trial. *Clin Oral Investig.* September 2014;18(7):1873–80.
25. Stauff I, Derman S, Barbe AG, Hoefer KC, Bizhang M, Zimmer S, u. a. Efficacy and acceptance of a high-velocity microdroplet device for interdental cleaning in gingivitis patients – a monitored, randomized controlled trial. *Int J Dent Hyg.* 2018;16(2):e31–7.
26. Marinho VCC, Chong LY, Worthington HV, Walsh T. Fluoride mouthrinses for preventing dental caries in children and adolescents. *Cochrane Database Syst Rev.* 29. Juli 2016;7:CD002284.
27. Marinho VCC, Worthington HV, Walsh T, Chong LY. Fluoride gels for preventing dental caries in children and adolescents. *Cochrane Database Syst Rev.* 15. Juni 2015;2015(6):CD002280.

28. Walsh T, Worthington HV, Glenny A-M, Marinho VC, Jeroncic A. Fluoride toothpastes of different concentrations for preventing dental caries. *Cochrane Database Syst Rev*. 4. März 2019;3(3):CD007868.
29. Meyer-Lueckel H, Machiulskiene V, Giacaman RA. How to Intervene in the Root Caries Process? Systematic Review and Meta-Analyses. *Caries Res*. 2019;53(6):599–608.
30. Ekstrand KR. High Fluoride Dentifrices for Elderly and Vulnerable Adults: Does It Work and if So, Then Why? *Caries Res*. 2016;50 Suppl 1:15–21.
31. Urquhart O, Tampi MP, Pilcher L, Slayton RL, Araujo MWB, Fontana M, et al. Nonrestorative Treatments for Caries: Systematic Review and Network Meta-analysis. *J Dent Res*. Januar 2019;98(1):14–26.
32. Heijnsbroek M, Paraskevas S, Van der Weijden GA. Fluoride interventions for root caries: a review. *Oral Health Prev Dent*. 2007;5(2):145–52.
33. Van Nieuw Amerongen A, Bolscher JGM, Veerman ECI. Salivary proteins: protective and diagnostic value in cariology? *Caries Res*. Juni 2004;38(3):247–53.
34. Deng J, Jackson L, Epstein JB, Migliorati CA, Murphy BA. Dental demineralization and caries in patients with head and neck cancer. *Oral Oncol*. September 2015;51(9):824–31.
35. Papas A, Russell D, Singh M, Stack K, Kent R, Triol C, et al. Double blind clinical trial of a remineralizing dentifrice in the prevention of caries in a radiation therapy population. *Gerodontology*. Juli 1999;16(1):2–10.
36. Singh ML, Papas AS. Long-term clinical observation of dental caries in salivary hypofunction patients using a supersaturated calcium-phosphate remineralizing rinse. *J Clin Dent*. 2009;20(3):87–92.
37. Ganss C, Neutard L, von Hinckeldey J, Klimek J, Schlueter N. Efficacy of a tin/fluoride rinse: a randomized in situ trial on erosion. *J Dent Res*. 2010;89:1214–8.
38. Pini NIP, Schlueter N, Sundfeld D, Semper Hogg W, Santos-Silva AR, Lopes MA, et al. Efficacy of Stannous Ions on Enamel Demineralization under Normal and Hyposalivatory Conditions: A Controlled Randomized in situ Pilot Trial. *Caries Res*. 2018;51(6):543–53.
39. van Loveren C. Sugar Restriction for Caries Prevention: Amount and Frequency. Which Is More Important? *Caries Res*. 2019;53(2):168–75.
40. Woelber JP, Bremer K, Vach K, König D, Hellwig E, Ratka-Krüger P, u. a. An oral health optimized diet can reduce gingival and periodontal inflammation in humans – a randomized controlled pilot study. *BMC Oral Health*. 26 2016;17(1):28.

41. Ellefsen B, Holm-Pedersen P, Morse DE, Schroll M, Andersen BB, Waldemar G. Caries prevalence in older persons with and without dementia. *J Am Geriatr Soc*. Januar 2008;56(1):59–67.

Die „Guided Biofilm Therapy“ ist der absolute Favorit bei den Patienten

Dr. Jan H. Koch

ZMK 4/2022 (38), 183-185

- [1] Blas E, Kurup AS. Introduction and methods of work. In: World Health Organization: Equity, social determinants and public health programmes. In: World Health Organization (ed). Equity, social determinants and public health programmes, 2010:3-10.
- [2] World Health Organization. Political declaration of the third high-level meeting of the General Assembly on the prevention and control of noncommunicable diseases. Report by the Director-General. EXECUTIVE BOARD EB150/7, 150th session 11 January 2022, Provisional agenda item 7. 2022.
- [3] FDI World Dental Federation. Vision 2030: Delivering Optimal Oral Health for All. Available from: <https://www.fdiworlddental.org/vision2030>. 2021.
- [4] Tonetti MS, Chapple ILC, Jepsen S, Sanz M. Primary and secondary prevention of periodontal and peri-implant diseases. Journal of Clinical Periodontology 2015;42:S1-S4.
- [5] Axelsson P, Nystrom B, Lindhe J. The long-term effect of a plaque control program on tooth mortality, caries and periodontal disease in adults. Results after 30 years of maintenance. Journal of clinical periodontology 2004;31:749-757.
- [6] Furrer C, Battig R, Votta I, Bastendorf KD, Schmidlin PR. [Patient acceptance of Guided Biofilm Therapy]. Swiss Dent J 2021;131:229-234.
- [7] Furrer C, Battig R, Votta I, Bastendorf KD, Schmidlin PR. Patientenakzeptanz nach Umstellung auf Guided Biofilm Therapy. Swiss Dent J 2021;131:229-234.
- [8] Axelsson P. [Effect of mechanical control of dental plaque on the development of dental caries, gingivitis and periodontitis. The Karlstad study]. Tandlakartidningen 1976;68:1080-1085.
- [9] Bastendorf K, Strafela-Bastendorf N. Auf das klinische Protokoll kommt es an – PZR, UPT und GBT. Quintessenz 2020;71:1380-1389.
- [10] Shrivastava D, Natoli V, Srivastava KC, Alzoubi IA, Nagy AI, Hamza MO, et al. Novel Approach to Dental Biofilm Management through Guided Biofilm Therapy (GBT): A Review. Microorganisms 2021;9.
- [11] Vouros I, Antonoglou GN, Anoixiadou S, Kalfas S. A novel biofilm removal approach (Guided Biofilm Therapy) utilizing erythritol air-polishing and ultrasonic piezo instrumentation: A randomized controlled trial. International journal of dental hygiene 2021;n/a.
- [12] Nascimento GG, Leite FRM, Pennisi PRC, López R, Paranhos LR. Use of air polishing for supra- and subgingival biofilm removal for treatment of residual periodontal pockets and supportive periodontal care: a systematic review. Clinical Oral Investigations 2021;25:779-795.
- [13] Schwarz F, Becker K, Renvert S. Efficacy of air polishing for the non-surgical treatment of peri-implant diseases: a systematic review. Journal of clinical periodontology 2015;42:951-959.

- [14] Buhler J, Amato M, Weiger R, Walter C. A systematic review on the patient perception of periodontal treatment using air polishing devices. *International journal of dental hygiene* 2016;14:4-14.
- [15] Buhler J, Amato M, Weiger R, Walter C. A systematic review on the effects of air polishing devices on oral tissues. *International journal of dental hygiene* 2016;14:15-28.
- [16] Barnes CM, Covey D, Watanabe H, Simetich B, Schulte JR, Chen H. An in vitro comparison of the effects of various air polishing powders on enamel and selected esthetic restorative materials. *The Journal of clinical dentistry* 2014;25:76-87.
- [17] Petersilka G, Koch R, Vomhof A, Joda T, Harks I, Arweiler N, et al. Retrospective analysis of the long-term effect of subgingival air polishing in supportive periodontal therapy. *Journal of Clinical Periodontology* 2021;48:263-271.
- [18] Mensi M, Scotti E, Sordillo A, Agosti R, Calza S. Plaque disclosing agent as a guide for professional biofilm removal: A randomized controlled clinical trial. *International journal of dental hygiene* 2020;18:285-294.
- [19] Fu JH, Wong LB, Tong HJ, Sim YF. Conventional versus comprehensive dental prophylaxis: comparing the clinical outcomes between rubber cup and air polishing and the importance of plaque disclosure. *Quintessence Int* 2021;0:0.
- [20] Wennstrom JL, Tomasi C, Bertelle A, Dellasega E. Full-mouth ultrasonic debridement versus quadrant scaling and root planing as an initial approach in the treatment of chronic periodontitis. *Journal of clinical periodontology* 2005;32:851-859.
- [21] Arefnia B, Koller M, Wimmer G, Lussi A, Haas M. In Vitro Study of Surface Changes Induced on Enamel and Cementum by Different Scaling and Polishing Techniques. *Oral health & preventive dentistry* 2021;19:85-92.
- [22] Stiftung Warentest. Weit aufmachen, bitte. Stiftung Warentest: Professionelle Zahnreinigung. *test* 2015;86-90.
- [23] Strafela-Bastendorf N, KD. B. Die Patientenzufriedenheit in der Prophylaxe. *Plaque 'N Care* 2020;36:452-456.
- [24] Lang N, A. L, KD. B. Wissenschaftlicher Konsensus Guided Biofilm Therapy-Protokoll. Ein neues Konzept für die primäre und sekundäre Prävention. 2019.
- [25] Sculean A, Bastendorf KD, Becker C, Bush B, Einwag J, Lanoway C, et al. A paradigm shift in mechanical biofilm management? Subgingival air polishing: a new way to improve mechanical biofilm management in the dental practice. *Quintessence Int* 2013;44:475-477.
- [26] Schwarz F, Becker K, Bastendorf KD, Cardaropoli D, Chatfield C, Dunn I, et al. Recommendations on the clinical application of air polishing for the management of peri-implant mucositis and peri-implantitis. *Quintessence Int* 2016;47:293-296.
- [27] Mensi M, Scotti E, Sordillo A, Dale M, Calza S. Clinical evaluation of air polishing with erythritol powder followed by ultrasonic calculus removal versus conventional ultrasonic debridement and rubber cup polishing for the treatment of gingivitis: A split-mouth randomized controlled clinical trial. *International journal of dental hygiene* 2021;n/a.
- [28] Park BY, Kim M, Park J, Jeong JH, Noh H. Research on dental plaque removal methods for efficient oral prophylaxis: With a focus on air polishing and rubber cup polishing.

International journal of dental hygiene 2021;19:255-261.

[29] Donnet M, Fournier M, Schmidlin PR and Lussi A. A Novel Method to Measure the Powder Consumption of Dental Air-Polishing Devices. Appl. Sci. 2021, 11(3), 1101

[30] Bischoff J G. „Nebenbei-Prophylaxe“ kann nur der Anfang sein. ZWP 2018; 24:20-22.