

Literaturverzeichnis für den Fortbildungsbeitrag

Aktuelle Aspekte zur Adhäsivtechnik –

Anwendung von direkten Kompositen im Seitenzahnbereich Teil 1 und 2

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Literatur:

1. Federlin, M., et al., *Kompositrestaurationen im Seitenzahnbereich. S1-Handlungsempfehlung (Langversion)*. AWMF-Registernummer: 083–028; Stand: Oktober 2016; gültig bis: Oktober 2021. AWMF, 2016.
2. Frankenberger, R., *Die adhäsive Seitenzahnversorgung. Komposit oder Keramik?* ZWR, 2009. **118**(4): p. 187-190.
3. Frankenberger, R., et al., *Operator vs. material influence on clinical outcome of bonded ceramic inlays*. Dent Mater, 2009. **25**(8): p. 960-8.
4. Coppola, M.N., Y.A. Ozcan, and R. Bogacki, *Evaluation of performance of dental providers on posterior restorations: does experience matter? A data envelopment analysis (DEA) approach*. J Med.Syst., 2003. **27**(5): p. 445-456.
5. Kelsey, W.P., et al., *Physical properties of three packable resin-composite restorative materials*. Oper Dent, 2000. **25**(4): p. 331-335.
6. Lambrechts, P., M. Braem, and G. Vanherle, *Klinische Erfahrungen mit Composites und Dentin-Adhäsiven im Seitenzahnbereich I: Klinische Beurteilung von Composites*. Phillip J, 1988. **1**: p. 12-28.
7. Leinfelder, K.F., et al., *5-Year Clinical-Evaluation of Anterior and Posterior Restorations of Composite Resin*. Oper Dent, 1980. **5**(2): p. 57-65.
8. Lutz, F., et al., *In vivo and in vitro wear of potential posterior composites*. Journal of Dental Research, 1984. **63**(6): p. 914-920.
9. Roulet, J.F., *The problems associated with substituting composite resins for amalgam: a status report on posterior composites*. J Dent, 1988. **16**(3): p. 101-13.
10. Sabbagh, J., R.J. McConnell, and M.C. McConnell, *Posterior composites: Update on cavities and filling techniques*. J Dent, 2017. **57**: p. 86-90.
11. Demarco, F.F., et al., *Should my composite restorations last forever? Why are they failing?* Braz Oral Res, 2017. **31**(suppl 1): p. e56.
12. Manhart, J., *Charakterisierung direkter zahnärztlicher Füllungsmaterialien für den Seitenzahnbereich. Alternativen zum Amalgam?* Quintessenz, 2006. **57**(5): p. 465-481.
13. Ferracane, J.L., *Resin composite - state of the art*. Dent Mater, 2011. **27**(1): p. 29-38.
14. Pitel, M.L., *Low-shrink composite resins: a review of their history, strategies for managing shrinkage, and clinical significance*. Compend Contin Educ Dent, 2013. **34**(8): p. 578-90.
15. Manhart, J., et al., *Mechanical properties and wear behavior of light-cured packable composite resins*. Dental Materials, 2000. **16**(1): p. 33-40.
16. Ferracane, J.L., et al., *Academy of Dental Materials guidance-Resin composites: Part II-Technique sensitivity (handling, polymerization, dimensional changes)*. Dent Mater, 2017. **33**(11): p. 1171-1191.

17. Ilie, N., U. Lohbauer, and M. Rosentritt, *Lichtpolymerisation*. ZWR, 2016. **125**(6): p. 284-289.
18. Price, R.B.T., *Light Curing in Dentistry*. Dent Clin North Am, 2017. **61**(4): p. 751-778.
19. Price, R.B., J.L. Ferracane, and A.C. Shortall, *Light-Curing Units: A Review of What We Need to Know*. J Dent Res, 2015. **94**(9): p. 1179-86.
20. Roulet, J.F. and R. Price, *Light curing - guidelines for practitioners - a consensus statement from the 2014 symposium on light curing in dentistry held at Dalhousie University, Halifax, Canada*. J Adhes Dent, 2014. **16**(4): p. 303-4.
21. Ferracane, J., et al., *Effective Use of Dental Curing Lights: A Guide for the Dental Practitioner*. ADA Professional Product Review, 2013. **8**(2): p. 2-12.
22. Ferracane, J., et al., *Der effiziente Einsatz von Lichtpolymerisationsgeräten—ein Leitfaden für Zahnärzte*. ZMK, 2014. **30**(4): p. 166-180.
23. Strassler, H.E. and R.B. Price, *Understanding Light Curing, Part 1: Delivering Predictable and Successful Restorations*. Dentistry Today, 2014. **Continuing Education, Course Number: 173**.
24. Strassler, H.E. and R.B. Price, *Understanding Light Curing, Part 2: Delivering Predictable and Successful Restorations*. Dentistry Today, 2014. **Continuing Education, Course Number: 174**.
25. Eltahlah, D., et al., *An update on the reasons for placement and replacement of direct restorations*. J Dent, 2018.
26. Hickel, R., et al., *Direct composite restorations: extended use in anterior and posterior situations*. Clinical Oral Investigations, 2004. **8**(2): p. 43-44.
27. da Veiga, A.M., et al., *Longevity of direct and indirect resin composite restorations in permanent posterior teeth: A systematic review and meta-analysis*. J Dent, 2016. **54**: p. 1-12.
28. Hickel, R., K. Brushaver, and N. Ilie, *Repair of restorations - criteria for decision making and clinical recommendations*. Dent Mater, 2013. **29**(1): p. 28-50.
29. Göstemeyer, G. and U. Blunck, *Reparatur/Korrektur von Kompositfüllungen – Schritt für Schritt*. Zahnmedizin up2date, 2017. **11**(02): p. 119-123.
30. Frankenberger, R., A. Braun, and M.J. Roggendorf, *Reparatur zahnärztlicher Restaurationen*. Zahnmedizin up2date, 2015. **9**(4): p. 297-309.
31. Demarco, F.F., et al., *Longevity of posterior composite restorations: not only a matter of materials*. Dent Mater, 2012. **28**(1): p. 87-101.
32. Park, J., et al., *How should composite be layered to reduce shrinkage stress: incremental or bulk filling?* Dent Mater, 2008. **24**(11): p. 1501-5.
33. Ilie, N. and B. Stawarczyk, *Bulk-Fill-Komposite: neue Entwicklungen oder doch herkömmliche Komposite?* ZMK, 2014. **30**(3): p. 90-97.
34. Tauböck, T.T., *Bulk-Fill-Komposite. Wird die Füllungstherapie einfacher, schneller und erfolgreicher?* teamwork J Cont Dent Educ, 2013. **16**(4): p. 318-323.
35. Ferracane, J.L. and E.H. Greener, *The effect of resin formulation on the degree of conversion and mechanical properties of dental restorative resins*. J Biomed Mater Res, 1986. **20**(1): p. 121-31.
36. Caughman, W.F., et al., *Correlation of cytotoxicity, filler loading and curing time of dental composites*. Biomaterials, 1991. **12**(8): p. 737-40.
37. Feilzer, A.J., A.J. De Gee, and C.L. Davidson, *Setting stress in composite resin in relation to configuration of the restoration*. J Dent Res, 1987. **66**(11): p. 1636-9.
38. Dilley, D.C., et al., *Time required for placement of composite versus amalgam restorations*. ASDC J Dent Child, 1990. **57**(3): p. 177-83.
39. Noack, M.J., *Wirtschaftliche Füllungstechnik. Warum und womit?* ZWR Das Deutsche Zahnärzteblatt, 2013. **122**(3): p. 86-94.

40. Margeas, R., *New Bulk-Fill Material Simplifies Restorations to One Step*. Inside Dentistry, 2014. **10**(10): p. 86-90.
41. Manhart, J., *Muss es immer Kaviar sein? – Die Frage nach dem Aufwand für Komposite im Seitenzahnbereich*. ZMK, 2011. **27**(Sonderausgabe März 2011): p. 10-15.
42. Margeas, R.C., *Bulk-Fill Materials: Simplify Restorations, Reduce Chairtime*. Compend Contin Educ Dent, 2015. **36**(1): p. e1-e4.
43. Burtscher, P., *Von geschichteten Inkrementen zur Vier-Millimeter-Bulk-Fill-Technik – Anforderungen an Komposit und Lichthärtung*. DZW Die Zahnarzt Woche, 2011. **Ausgabe 39/2011** (39): p. 6-8.
44. Czasch, P. and N. Ilie, *In vitro comparison of mechanical properties and degree of cure of bulk fill composites*. Clin Oral Investig, 2013. **17**(1): p. 227-235.
45. Finan, L., et al., *The influence of irradiation potential on the degree of conversion and mechanical properties of two bulk-fill flowable RBC base materials*. Dent Mater, 2013. **29**(8): p. 906-12.
46. Manhart, J., *Neues Konzept zum Ersatz von Dentin in der kompositbasierten Seitenzahnversorgung*. ZWR Das Deutsche Zahnärzteblatt, 2010. **119**(3): p. 118-125.
47. Fleming, G.J., et al., *The potential of a resin-composite to be cured to a 4mm depth*. Dental Materials, 2008. **24**(4): p. 522-529.
48. Ilie, N., A. Kessler, and J. Durner, *Influence of various irradiation processes on the mechanical properties and polymerisation kinetics of bulk-fill resin based composites*. J Dent, 2013. **41**(8): p. 695-702.
49. Ferracane, J., G. Alex, and R. Margeas, *Question: Are Bulk-Fill Composites a Good Idea?* Inside Dentistry, 2014. **10**(10): p. 42-44.
50. Hickel, R., *Neueste Komposite - viele Behauptungen*. BZB Bayerisches Zahnärzteblatt, 2012. **49**(9): p. 50-53.
51. Ilie, N., S. Bucuta, and M. Draenert, *Bulk-fill resin-based composites: an in vitro assessment of their mechanical performance*. Oper Dent, 2013. **38**(6): p. 618-25.
52. Condon, J.R. and J.L. Ferracane, *Evaluation of composite wear with a new multi-mode oral wear simulator*. Dent Mater, 1996. **12**(4): p. 218-26.
53. Condon, J.R. and J.L. Ferracane, *In vitro wear of composite with varied cure, filler level, and filler treatment*. Journal of Dental Research, 1997. **76**(7): p. 1405-1411.
54. Poggio, C., et al., *Surface roughness of flowable resin composites eroded by acidic and alcoholic drinks*. J Conserv Dent, 2012. **15**(2): p. 137-40.
55. Peutzfeldt, A., *Resin composites in dentistry: the monomer systems*. Eur J Oral Sci, 1997. **105**(2): p. 97-116.
56. Guggenberger, R. and W. Weinmann, *Exploring beyond methacrylates*. Am J Dent, 2000. **13**(Spec No): p. 82D-84D.
57. Weinmann, W., C. Thalacker, and R. Guggenberger, *Siloranes in dental composites*. Dent Mater, 2005. **21**(1): p. 68-74.
58. Lien, W. and K.S. Vandewalle, *Physical properties of a new silorane-based restorative system*. Dent Mater, 2010. **26**(4): p. 337-44.
59. Ilie, N. and R. Hickel, *Silorane-based dental composite: behavior and abilities*. Dent Mater J, 2006. **25**(3): p. 445-54.
60. Ilie, N. and R. Hickel, *Macro-, micro- and nano-mechanical investigations on silorane and methacrylate-based composites*. Dent Mater, 2009. **25**(6): p. 810-9.

61. Zimmerli, B., et al., *Composite materials: composition, properties and clinical applications. A literature review.* Schweiz Monatsschr Zahnmed, 2010. **120**(11): p. 972-86.
62. Manhart, J., et al., *Randqualität von Ormocer- und Kompositfüllungen in Klasse-II-Kavitäten nach künstlicher Alterung.* Deutsche Zahnärztliche Zeitschrift, 1999. **54**: p. 89-95.
63. Wolter, H. and W. Storch, *Neuartige Silanklasse - Werkstoffe für Formkörper.* ISC-Tätigkeitsbericht 1992, 1992: p. 61-72.
64. Wolter, H., W. Storch, and H. Ott, *Dental filling materials (posterior composites) based on inorganic/organic copolymers (ORMOCERs).* MACRO AKRON, 1994(35th IUPAC, International Symposium on Macromolecules, Ohio, Proceedings): p. 503.
65. Wolter, H., W. Storch, and H. Ott, *New inorganic/organic copolymers (ORMOCERs) for dental applications.* Materials Research Society Symposia Proceedings, 1994. **346**(Mat. Res. Soc. Symp. Proc.): p. 143-149.
66. Wolter, H., *Kompakte Ormocere und Ormocer-Komposite.* Fraunhofer-Institut für Silikatforschung (ISC) - Tätigkeitsbericht 1995, 1995: p. 56-63.
67. Wolter, H., et al., *Neue biokompatible Dentalwerkstoffe auf Ormocer-Basis,* in *Tagungsband Werkstoffwoche 1998, Band 4, Symposium 4: Werkstoffe für die Medizintechnik,* H. Planck and H. Stallforth, Editors. 1998, Wiley VCH: Weinheim. p. 245-248.
68. Hickel, R., et al., *New direct restorative materials. FDI Commission Project.* Int Dent J, 1998. **48**(1): p. 3-16.
69. Greiwe, K. and G. Schottner, *ORMOCERe: Eine neue Werkstoffklasse.* FhG-Berichte, 1990. **2**: p. 64-67.
70. Moszner, N., et al., *Sol-Gel Materials, 1. Synthesis and Hydrolytic Condensation of New Cross-Linking Alkoxysilane Methacrylates and Light-Curing Composites Based upon the Condensates.* Macromol Mater Eng, 2002. **287**(5): p. 339-347.
71. Moszner, N., et al., *Sol-gel materials 2. Light-curing dental composites based on ormocers of cross-linking alkoxysilane methacrylates and further nano-components.* Dent Mater, 2008. **24**(6): p. 851-6.
72. Wolter, H., *Werkstoffe mit Biss. Teil I: Ormocere.* DZW Die Zahnarzt Woche, 2015. **Ausgabe 11/15**: p. 10-11.
73. Ilie, N. and R. Hickel, *Resin composite restorative materials.* Aust Dent J, 2011. **56 Suppl 1**: p. 59-66.
74. Frankenberger, R., et al., *Internal adaptation and overhang formation of direct Class II resin composite restorations.* Clin Oral Investig, 1999. **3**(4): p. 208-15.
75. Braga, R.R., T.J. Hilton, and J.L. Ferracane, *Contraction stress of flowable composite materials and their efficacy as stress-relieving layers.* J Am Dent Assoc, 2003. **134**(6): p. 721-8.
76. Kwon, Y., J. Ferracane, and I.B. Lee, *Effect of layering methods, composite type, and flowable liner on the polymerization shrinkage stress of light cured composites.* Dent Mater, 2012. **28**(7): p. 801-9.
77. Braga, R.R. and J.L. Ferracane, *Alternatives in polymerization contraction stress management.* Crit Rev Oral Biol Med 2004. **15**(3): p. 176-184.
78. Chuang, S.F., et al., *Influence of flowable composite lining thickness on Class II composite restorations.* Oper Dent, 2004. **29**(3): p. 301-308.
79. Lokhande, N.A., et al., *Effectiveness of flowable resin composite in reducing microleakage - an in vitro study.* J Int Oral Health, 2014. **6**(3): p. 111-4.
80. Unlu, N., et al., *Reducing microleakage in composite resin restorations: an in vitro study.* Eur J Prosthodont Restor Dent, 2003. **11**(4): p. 171-175.

81. Sadeghi, M., *Influence of flowable materials on microleakage of nanofilled and hybrid Class II composite restorations with LED and QTH LCUs*. Indian J Dent Res, 2009. **20**(2): p. 159-63.
82. Sadeghi, M. and C.D. Lynch, *The effect of flowable materials on the microleakage of Class II composite restorations that extend apical to the cemento-enamel junction*. Oper Dent, 2009. **34**(3): p. 306-11.
83. Reddy, S.N., et al., *The effect of flowable composite lining thickness with various curing techniques on microleakage in class II composite restorations: an in vitro study*. J Contemp Dent Pract, 2013. **14**(1): p. 56-60.
84. Haak, R., M.J. Wicht, and M.J. Noack, *Marginal and internal adaptation of extended class I restorations lined with flowable composites*. J Dent, 2003. **31**(4): p. 231-239.
85. Tung, F.F., W.W. Hsieh, and D. Estafan, *In vitro microleakage study of a condensable and flowable composite resin*. Gen Dent, 2000. **48**(6): p. 711-5.
86. Tung, F.F., D. Estafan, and W. Scherer, *Microleakage of a condensable resin composite: an in vitro investigation*. Quintessence Int, 2000. **31**(6): p. 430-434.
87. Belli, S., et al., *The effect of additional enamel etching and a flowable composite to the interfacial integrity of Class II adhesive composite restorations*. Oper Dent, 2001. **26**(1): p. 70-75.
88. Ernst, C.P., et al., *Two-year clinical performance of a packable posterior composite with and without a flowable composite liner*. Clin Oral Investig, 2003. **7**(3): p. 129-34.
89. van Dijken, J.W. and U. Pallesen, *Clinical performance of a hybrid resin composite with and without an intermediate layer of flowable resin composite: a 7-year evaluation*. Dent Mater, 2011. **27**(2): p. 150-6.
90. Stefanski, S. and J.W. van Dijken, *Clinical performance of a nanofilled resin composite with and without an intermediary layer of flowable composite: a 2-year evaluation*. Clin Oral Investig, 2012. **16**(1): p. 147-53.
91. Efes, B.G., et al., *Two-year clinical evaluation of ormocer and nanofill composite with and without a flowable liner*. J Adhes Dent, 2006. **8**(2): p. 119-26.
92. Boeckler, A., H.G. Schaller, and C.R. Gernhardt, *A prospective, double-blind, randomized clinical trial of a one-step, self-etch adhesive with and without an intermediary layer of a flowable composite: a 2-year evaluation*. Quintessence Int, 2012. **43**(4): p. 279-86.
93. Browning, W.D., et al., *Performance of 2 packable composites at 12 months*. Quintessence Int, 2006. **37**(5): p. 361-8.
94. Ernst, C.P., et al., *Clinical performance of resin composite restorations after 2 years*. Compend Contin Educ Dent, 2002. **23**(8): p. 711-7, 720.
95. Boruziniat, A., et al., *Evaluation of the efficacy of flowable composite as lining material on microleakage of composite resin restorations: A systematic review and meta-analysis*. Quintessence Int, 2016. **47**(2): p. 93-101.
96. Wolff, D., H.J. Staehle, and C. Frese, *Komplexe Zahnaufbauten als Alternative zur Überkronung*. ZWR, 2015. **124**(1): p. 30-34.
97. Frese, C., D. Wolff, and H. Staehle, *Proximal box elevation with resin composite and the dogma of biological width: clinical r2-technique and critical review*. Oper Dent, 2014. **39**(1): p. 22-31.
98. Frese, C., D. Wolff, and H.J. Staehle, *Die R2-Technik: zweiphasige direkte Kompositrestauration*. Restaurative Versorgung extrem tiefer Kavitäten. Zahnärztliche Mitteilungen, 2014. **104**(5): p. 50-59.
99. Frese, C., D. Wolff, and H.J. Staehle, *Komplexe Seitenzahnrestaurationen in der R1- und R2-Technik. Schwierige Ausgangssituationen und deren Lösung bei*

- direkter Versorgung mit Kompositmaterialien. DFZ Der Freie Zahnarzt, 2014. **58**(12): p. 72-81.
100. Frese, C., et al., *Recontouring teeth and closing diastemas with direct composite buildups: a 5-year follow-up*. J Dent, 2013. **41**(11): p. 979-85.
 101. Roggendorf, M.J., et al., *Effect of proximal box elevation with resin composite on marginal quality of resin composite inlays in vitro*. J Dent, 2012. **40**(12): p. 1068-73.
 102. Manhart, J. and R. Hickel, *„Bulk Fill“-Komposite. Neuartige Einsatztechnik von Kompositen im Seitenzahnbereich*. Swiss Dental Journal, 2014. **124**(1): p. 19-28.
 103. Lynch, C.D., et al., *Guidance on posterior resin composites: Academy of Operative Dentistry - European Section*. J Dent, 2014. **42**(4): p. 377-83.
 104. Staehle, H.J., *Minimally invasive restorative treatment*. J Adhes Dent, 1999. **1**(3): p. 267-84.
 105. Heintze, S.D. and V. Rousson, *Clinical effectiveness of direct class II restorations - a meta-analysis*. J Adhes Dent, 2012. **14**(5): p. 407-31.
 106. Frese, C. and H.J. Staehle, *Wie invasiv ist minimalinvasiv? Management von Einzelzahnlücken aus konservierender Sicht*. DFZ Der Freie Zahnarzt, 2018. **62**(3): p. 70-77.
 107. Staehle, H.J., C. Frese, and D. Wolff, *Neue konservierend-restaurative Optionen in der Gerontostomatologie*. Zahnmedizin up2date, 2017. **11**(2): p. 127-151.
 108. Staehle, H.J., *Lückenschluss im Seitenzahnbereich durch Zahnverbreiterungen*. Zahnärztliche Mitteilungen, 2007. **97**(4): p. 42-49.
 109. Scholtanus, J.D. and M. Ozcan, *Clinical longevity of extensive direct composite restorations in amalgam replacement: up to 3.5 years follow-up*. J Dent, 2014. **42**(11): p. 1404-10.
 110. Deliperi, S. and D.N. Bardwell, *Direct cuspal-coverage posterior resin composite restorations: A case report*. Oper Dent, 2006. **31**(1): p. 143-50.
 111. Laegreid, T., et al., *Clinical decision making on extensive molar restorations*. Oper Dent, 2014. **39**(6): p. E231-40.
 112. Plotino, G., et al., *Fracture resistance of endodontically treated molars restored with extensive composite resin restorations*. J Prosthet Dent, 2008. **99**(3): p. 225-32.
 113. Denehy, G. and D. Cobb, *Impression matrix technique for cusp replacement using direct composite resin*. J Esthet Restor Dent, 2004. **16**(4): p. 227-233.
 114. Brackett, W.W., et al., *Effect of restoration size on the clinical performance of posterior „packable“ resin composites over 18 months*. Oper Dent, 2007. **32**(3): p. 212-6.
 115. Fennis, W.M., et al., *Fatigue resistance of teeth restored with cuspal-coverage composite restorations*. Int J Prosthodont, 2004. **17**(3): p. 313-7.
 116. Segura, A. and R. Riggins, *Fracture resistance of four different restorations for cuspal replacement*. J Oral Rehabil, 1999. **26**(12): p. 928-31.
 117. Macpherson, L.C. and B.G. Smith, *Replacement of missing cusps: an in vitro study*. J Dent, 1994. **22**(2): p. 118-20.
 118. Mondelli, R.F., et al., *Conservative approach to restore the first molar with extensive destruction: A 30-month follow-up*. Quintessence Int, 2013. **44**(6): p. 385-91.
 119. Kois, D.E., et al., *Evaluation of fracture resistance and failure risks of posterior partial coverage restorations*. J Esthet Restor Dent, 2013. **25**(2): p. 110-22.
 120. Kantardzic, I., et al., *Influence of cavity design preparation on stress values in maxillary premolar: a finite element analysis*. Croat Med J, 2012. **53**(6): p. 568-76.

121. Xie, K.X., et al., *Fracture resistance of root filled premolar teeth restored with direct composite resin with or without cusp coverage*. Int Endod J, 2012. **45**(6): p. 524-9.
122. ElAyouti, A., et al., *Influence of cusp coverage on the fracture resistance of premolars with endodontic access cavities*. Int Endod J, 2011. **44**(6): p. 543-9.
123. Kuijs, R.H., et al., *A randomized clinical trial of cusp-replacing resin composite restorations: efficiency and short-term effectiveness*. Int J Prosthodont, 2006. **19**(4): p. 349-54.
124. Laegreid, T., N.R. Gjerdet, and A.K. Johansson, *Extensive composite molar restorations: 3 years clinical evaluation*. Acta Odontol Scand, 2012. **70**(4): p. 344-52.
125. Deliperi, S. and D.N. Bardwell, *Clinical evaluation of direct cuspal coverage with posterior composite resin restorations*. J Esthet Restor Dent, 2006. **18**(5): p. 256-265.
126. Opdam, N.J., et al., *Seven-year clinical evaluation of painful cracked teeth restored with a direct composite restoration*. J Endod, 2008. **34**(7): p. 808-11.
127. Fennis, W.M., et al., *Randomized control trial of composite cuspal restorations: five-year results*. J Dent Res, 2014. **93**(1): p. 36-41.
128. Staehle, H.J., D. Wolff, and C. Frese, *Bewährte und neue Indikationen für direkte Kompositrestaurationen im Seitenzahnbereich*. Zahnmedizin up2date, 2015. **9**(5): p. 473-494.
129. Staehle, H.J., C. Frese, and D. Wolff, *Die zweiphasige direkte Kompositrestauration (R2-Technik)*. Dtsch Zahnärztl Zeitschr, 2014. **69**(4): p. 182-191.
130. Frese, C., D. Wolff, and H.J. Staehle, *Problemlösungen in der restaurativen Zahnheilkunde*. Zahnmedizin up2date, 2014. **8**(5): p. 467-482.
131. Wicht, M.J. and D. Wolff, *Matrizentechnik - physiologische Gestaltung approximaler Kontaktflächen im Front- und Seitenzahnbereich*. Quintessenz, 2016. **67**(4): p. 375-384.
132. Wolff, D., H.J. Staehle, and C. Frese, *Management schwieriger Behandlungssituationen in der Restaurativen Zahnheilkunde.*, in *Deutscher Zahnärzte Kalender 2015. Das Jahrbuch der Zahnmedizin.*, H.J. Staehle, Editor. 2015, Deutscher Zahnärzte Verlag: Köln. p. 17-33.
133. Wolff, D., H.J. Staehle, and C. Frese, *Zahnerhalt bei fundamentalen Defekten. Management schwieriger Behandlungssituationen in der restaurativen Zahnheilkunde*. Teamwork J Cont Dent Educ, 2015. **18**(2): p. 148-155.
134. Attin, T., et al., *Rekonstruktion erosiver Zahnhartsubstanzdefekte mit Komposit*. Quintessenz, 2015. **66**(9): p. 1055-1069.
135. Attin, T., et al., *Composite vertical bite reconstructions in eroded dentitions after 5.5 years: a case series*. J Oral Rehabil, 2012. **39**(1): p. 73-9.
136. Hamburger, J.T., et al., *Clinical performance of direct composite restorations for treatment of severe tooth wear*. J Adhes Dent, 2011. **13**(6): p. 585-93.
137. Schmidlin, P.R., et al., *Three-year evaluation of posterior vertical bite reconstruction using direct resin composite--a case series*. Oper Dent, 2009. **34**(1): p. 102-8.
138. Ramseyer, S.T., C. Helbling, and A. Lussi, *Posterior vertical bite reconstructions of erosively worn dentitions and the „Stamp Technique“ - a case series with a mean observation time of 40 months* J Adhes Dent, 2015. **17**(3): p. 283-289.
139. Loomans, B.A.C., et al., *Clinical performance of full rehabilitations with direct composite in severe tooth wear patients: 3.5 Years results*. J Dent, 2018. **70**: p. 97-103.

140. Taubock, T.T., T. Attin, and P.R. Schmidlin, *Implementation and experience of a new method for posterior vertical bite reconstruction using direct resin composite restorations in the private practice--a survey*. Acta Odontol Scand, 2012. **70**(4): p. 309-17.
141. Abduo, J. and K. Lyons, *Clinical considerations for increasing occlusal vertical dimension: a review*. Aust Dent J, 2012. **57**(1): p. 2-10.
142. Manhart, J., et al., *Review of the clinical survival of direct and indirect restorations in posterior teeth of the permanent dentition*. Oper Dent, 2004. **29**(5): p. 481-508.
143. Opdam, N.J., et al., *12-year survival of composite vs. amalgam restorations*. J Dent Res, 2010. **89**(10): p. 1063-7.
144. Da Rosa Rodolpho, P.A., et al., *22-Year clinical evaluation of the performance of two posterior composites with different filler characteristics*. Dent Mater, 2011. **27**(10): p. 955-63.
145. Pallesen, U. and J.W. van Dijken, *A randomized controlled 27 years follow up of three resin composites in Class II restorations*. J Dent, 2015. **43**(12): p. 1547-58.
146. Pallesen, U. and J.W. van Dijken, *A randomized controlled 30 years follow up of three conventional resin composites in Class II restorations*. Dent Mater, 2015. **31**(10): p. 1232-44.
147. Palotie, U., et al., *Longevity of 2- and 3-surface restorations in posterior teeth of 25- to 30-year-olds attending Public Dental Service-A 13-year observation*. J Dent, 2017. **62**: p. 13-17.
148. van de Sande, F.H., et al., *18-year survival of posterior composite resin restorations with and without glass ionomer cement as base*. Dent Mater, 2015. **31**(6): p. 669-75.
149. Opdam, N.J., et al., *Longevity of posterior composite restorations: a systematic review and meta-analysis*. J Dent Res, 2014. **93**(10): p. 943-9.
150. Burke, F.J., et al., *The current status of materials for posterior composite restorations: the advent of low shrink*. Dent Update, 2009. **36**(7): p. 401-402.
151. Manhart, J., H.Y. Chen, and R. Hickel, *Clinical Evaluation of the Posterior Composite Quixfil in Class I and II Cavities: 4-year Follow-up of a Randomized Controlled Trial*. J Adhes Dent, 2010. **12**(3): p. 237-243.
152. Hirata, R., et al., *Bulk Fill Composites: An Anatomic Sculpting Technique*. J Esthet Restor Dent, 2015. **27**(6): p. 335-43.