

**Der alternde Mensch in der zahnärztlichen Praxis
Gesundheitsrisiken erkennen – Komplikationen vermeiden**

- [1] Besimo, C.: Mehrdimensionale Diagnostik. Medizinisch-psychosoziales Screening des alternden Menschen in der zahnärztlichen Praxis. In: Besimo, C. (Hrsg.): Zahnärztliche Betreuung älterer Menschen, Schriftenreihe, Band I. Springer Medizin Schweiz, Zürich 2009.
- [2] Besimo, C.: Medizinisch-psychosoziale Beurteilung des alternden Menschen – eine Notwendigkeit für die zahnärztliche Praxis. SZM 1, 175-180 (2013).
- [3] Besimo, C.: Mehrdimensionales Assessment des alternden Menschen in der zahnärztlichen Praxis. Medizinische Screeninginstrumente. Schweizerische Zahnärzte-Gesellschaft SSO, Bern 2015.
- [4] Blozik, E., Meyer, K., Simmet, A.: Gesundheitsförderung und Prävention im Alter in der Schweiz. Ergebnisse aus dem Gesundheitsprofil-Projekt. Arbeitsdokument 21. Schweizerisches Gesundheitsobservatorium, Neuchâtel 2007.
- [5] Hefti, A.: Einfluss der Prophylaxe auf die Entwicklung der Behandlungsbedürfnisse. Schweiz Mschr Zahnmed 96, 1314-1321 (1986).
- [6] Hessel, A., Gunzelmann, T., Geyer, M.: Inanspruchnahme medizinischer Leistungen und Medikamenteneinnahme bei über 60-Jährigen in Deutschland – gesundheitliche, sozialstrukturelle, sozio-demographische und subjektive Faktoren. Z Gerontol Geriat 33, 289-299 (2000).
- [7] Holsten, D.: Mundgesundheit bei Senioren: die aktuellen Zahlen. Dtsch Zahnärztl Z 62, 15-16 (2007).
- [8] Höpflinger, F., Bayer-Oglesby, L., Zumbrunn, A.: Pflegebedürftigkeit und Langzeitpflege im Alter. Aktualisierte Szenarien für die Schweiz. Huber, Bern 2011, S. 17-31, 33-54.
- [9] Menghini, G., Steiner, M., Helfenstein, U., Imfeld, C., Brodowski, D., Hoyer, C., Hofmann, B., Furrer, R., Imfeld, Th.: Zahngesundheit von Erwachsenen im Kanton Zürich. Schweiz Monatsschr Zahnmed 112, 708-717 (2002).
- [10] Nitschke, I., Ilgner, A., Reiber, T.: Zur Etablierung der Seniorenzahnmedizin in der zahnärztlichen Ausbildung. Dtsch Zahnärztl Z 59 163-167 (2004).
- [11] Perrin, R. J., Fagan, A. M., Holtzman, D. M.: Multimodal techniques for diagnosis and prognosis of Alzheimer's disease. Nature 461, 916-922 (2009).
- [12] Seiler, W. O., Stähelin, H. B.: Besondere Aspekte der Malnutrition in der Geriatrie. Schweiz Med Wochenschr 125, 149-158 (1995).
- [13] Streffer, J.: Das gesunde und das kranke Gehirn von Hochaltrigen – Neurobiologie des Gehirns im hohen Alter. In: Petzold, H. G., Horn, E., Müller, L. (Hrsg.): Hochaltrigkeit. Herausforderung für persönliche Lebensführung und biopsychosoziale Arbeit. VS Verlag für Sozialwissenschaften, Wiesbaden 2011, 77-90.

**Wissenswertes über Zahnpasten –
Auf die Zutaten kommt es an**

Literatur

- [1] Relationship Between Dentifrice Fluoride Concentration and Clinical Caries Reduction .Tavss EA et al. Am J Dent 16 (6), 369-374 (2003).
- [2] Cochrane Report (2006).
- [3] Two-Year Caries Clinical Study of the Efficacy of Novel Dentifrices Containing 1.5% Arginine, an Insoluble Calcium Compound and 1,450 ppm Fluoride. Kraivaphan et al. Caries Res 47, 582-590 (2013).
- [4] Arweiler et al. Periodontology 2000 Vol. 0, 1-16 (2016).
- [5] Chapple IL et al. J Clin Periodontol 42 (Suppl 16), S71-S76 (2015).
- [6] Riley P, Lamont T. Cochrane Database Syst Rev 12 (2013).
- [7] Wicht MJ, Noack MJ. Dentinhypermensibilität, Springer Medizin (2014).
- [8] Cummins D. Am J Dent 43 (Special Issue A), 3A-13A (2010).
- [9] Baraúna Magno M et al. Am J Dent 28 (1), 40-44 (2015).
- [10] The protective effects of toothpaste against erosion by orange juice: studies in situ and in vitro. Hooper SM et al. J Dent 35 (6), 476-481 (2007).
- [11] Tin-Containing Fluoride solutions as Anti-Erosive Agents in Enamel: An in Vitro Tin-Uptake, Tissue-Loss, and Scanning Electron Micrograph Study. Schlueter N et al. Eur J Oral Sci 117 (4), 427-434 (2009).

Professionelle Zahnreinigung für eine bessere Mundgesundheit

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ZMK 10 (33) 2017, S 724-725

Literatur

1. Institut der Deutschen Zahnärzte (IDZ): Fünfte Deutsche Mundgesundheitsstudie (DMS V). Kurzfassung August 2016.
2. Loe H, Theilade E, Jensen SB: Experimental gingivitis in man. J Periodontol 36: 177–187 (1965).
3. Axelsson P, Lindhe J: Effect of controlled oral hygiene procedures on caries and periodontal diseases in adults. J Clin Periodontol 8: 239–248 (1981).
4. Axelsson P: Preventive materials, methods, and programs. ?? Quintessence Publishing Co, Inc. (2004).
5. Quirynen M, Bollen CML: The influence of surface roughness and surface-free energy on supra- and subgingival plaque formation in man. J Clin Periodontol 22: 1–14 (1995).
6. Quirynen M, Marechal M, Busscher H, El-Abaid M, Arends J, Van Steenberghe D: The influence of surface characteristics on the early bacterial colonization of intra-oral hard surfaces. J Clin Dent 1 (Suppl A): A14–A19 (1988).
7. Toijanica JA, Ward CB, Gewerth, ME, Banakis ML: A longitudinal clinical comparison of plaque-induced inflammation between gingival and peri-implant soft tissues in the maxilla. J Periodontol 72: 1139–1145 (2001).
8. Christensen RP, Bangerter VW: Determination of rpm, time, and load used in oral prophylaxis in vivo. J Dent Res 63: 1376–1382 (1984).
9. Stookey GK, Schemehorn BR: A method for assessing the relative abrasion of prophylaxis materials. J Dent Res 58: 588–592 (1979).
10. González-Cabezaz C: Determination of the abrasivity of dentifrices on human dentin using the radioactive (also known as relative) dentin abrasion (RDA) method. J Clin Res 21 (Suppl): S9–S10 (2010).
11. Bose M, Ott KHR: Abrieb, Aufräuhung und Glättung von Kompositen durch Prophylaxepasten in vitro. Dtsch Zahnärztl Z 51: 690–693 (1996).
12. Rühling A, Wulf J, Schwahn C, Kocher T: Surface wear on cervical restorations and adjacent enamel and root cementum caused by simulated long-term maintenance therapy. J Clin Periodontol 31: 293–298 (2004).

13. Jaeger R, Deissenbeck M, Jaeger D, Soltész U: Abrieb von Dentalersatzwerkstoffen durch Prophylaxepasten. Quintessenz 56 (1): 61–65 (2005).
14. Yazici AR, Antonson DE, Campillo M, Antonson SA, Karaman E, Munoz C: Effect of prophylactic pastes on ceramic surface roughness. J Dent Res 91 (Spec Iss A): 1059 (2012).
15. Lendenmann U, David G, Gigerl S, Schwenninger M, Roulet JF: Oberflächeneffekte von Prophy-Pasten auf Komposite. Prophylaxe impuls 2: 71–76 (2011).

Tumordiagnostik mittels DVT

Dr. Jörg Mudrak

ZMK 10 (33) 2017, S. 706-714

[1] Dr J. Mudrak, Ein neuer 3D-Volumentomograph mit drei verschiedenen Gesichtsfeldern und integriertem Panorama-Sensor Implantologie Zeitung 2008

[2] R Spin-Neto*, J Mudrak, LH Matzen, J Christensen, E Gottfredsen and A Wenzel: Cone beam CT image artefacts related to head motion simulated by a robot skull: visual characteristics and impact on image quality. Dentomaxillofacial Radiology (2013) 42, The British Institute of Radiology

[2] Dr Dr Dennis Rottke, Digitale Volumentomographie: Was man wissen muss

[3] Dr Daniel Kärcher, Der Stellenwert der DVT Technologie im Bereich der Tumordiagnostik und Therapie, White Paper

[4] Patel, R.S., et al., The prognostic impact of extent of bone invasion and extent of bone resection in oral carcinoma. The Laryngoscope, 2008. 118(5): p. 780-785.

[5] Uribe, S., L.A. Rojas, and C.F. Rosas, Accuracy of imaging methods for detection of bone tissue invasion in patients with oral squamous cell carcinoma. Dento maxillo facial radiology, 2013. 42(6): p. 20120346.

[6] Handschel, J., et al., CT-scan is a valuable tool to detect mandibular involvement in oral cancer patients. Oral oncology, 2012. 48(4): p. 361-366.

[7] Andrie, J., et al., Initial staging examinations for head and neck squamous cell carcinoma: are they appropriate? The Journal of laryngology and otology, 2009. 123(8): p. 885-888.

[8] Lenz, M., et al., Oropharynx, oral cavity, floor of the mouth: CT and MRI. European Journal of Radiology, 2000. 33(3): p. 203-215.

[9] Campbell, R.S., et al., MRI T staging of squamous cell carcinoma of the oral cavity: radiological-pathological correlation. Clinical radiology, 1995. 50(8): p. 533-540.

[10] Kramer IRH, Pindborg JJ, Shear M (1992) Histologic typing of odontogenic tumours, 2nd ed. Springer, Berlin

[11] Reichart PA, Philipsen HP (2003) Revision of the 1992 edition of the WHO histological typing of odontogenic tumors. A suggestion Mund Kiefer Gesichtschir. 2003 Mar;7(2):88-93

[12] https://de.wikipedia.org/wiki/Medizinische_Leitlinie

[13] Hakim, S.G., et al., Imaging of mandible invasion by oral squamous cell carcinoma using computed tomography, cone-beam computed tomography and bone scintigraphy with SPECT. Clinical oral investigations, 2014. 18(3): p. 961-967.

[14] Advanced investigation on rapid prototyping techniques in maxillofacial surgery and implanting preparation. Journal for Technology of Plasticity, Vol. 39 (2014), Number 1

<http://www.dpm.ftn.uns.ac.rs/jtp/download/2014/1/Article2.pdf>

[15] M. Sljivica, M. Stanojevica, D. Djurdjevicb, N. Grujovicc, A. Pavlovicd: Investigation on Appllicatio of FE simulation and rapid prototyping in osteotomy surgery planning.

https://www.researchgate.net/publication/265601001_Investigation_on_Application_of_FE_Simulation_and_Rapid_Prototyping_in_Osteotomy_Surgery_Planning

Update: Rationaler Antibiotikaeinsatz in der Parodontitis-Therapie

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ZMK 10 (33), S. 690-697

1. Amano A: Host-parasite interactions in periodontitis: microbial pathogenicity and innate immunity. *Periodontology* 2000 54, 9–14 (2010).
2. Bastendorf K: Paradigmenwechsel im Biofilmmangement. *PNC* 8 (1), 6–11 (2014).
3. Beikler T., et al.: Wissenschaftliche Stellungnahme DGZMK: Adjuvante Antibiotika in der Parodontitistherapie. *DZZ* (2003).
4. Bhullar K, Waglechner N, Pawlowski A, Koteva K, Banks ED, Johnston MD, Barton HA, Wright GD: Antibiotic resistance is prevalent in an isolated cave microbiome. *PLoS ONE* 7 (4): e34953 (2012).
5. Brauer HU, Manegold-Brauer G, Beikler T, Klocke A: Zahnärztliche Medikation während der Schwangerschaft und in der Stillzeit. *Quintessenz* 68 (7), 815–822 (2017).
6. Brown MRW, Gilbert P: Sensitivity of biofilms to antimicrobial agents. *J Appl Bacteriol* 74 (S22), 87–97 (1993).
7. Bruckmann C, Gregor R, Müller W: Kompendium der parodontalen Erkrankungen. Grundlagen, Diagnostik, Therapie und Risikofaktoren. *ÖGP* (2005).
8. Colombo AP, Boches SK, Cotton SL, Goodson JM, Kent R, Haffajee AD, Socransky SS, Hasturk H, Thomas E, Van Dyke TE, Paster B: Comparisons of subgingival microbial profiles of refractory periodontitis, severe periodontitis and periodontal health using the human oral microbe identification microarray (HOMIM). *J Periodontol* 80 (9), 1421–1432 (2009).
9. Costerton JW, Cheng K-J, Geesey GG, Ladd TI, Nickel JC, Dasgupta M, Marrie TJ: Bacterial biofilms in nature and disease. *Ann Rev Microbiol* 41, 435–464 (1987).
10. Costerton JW, Lewandowski Z, Caldwell DE, Korber DE, Lappin-Scott HM: Microbial biofilms. *Annu Rev Microbiol* 49, 711–745 (1995).
11. D’Costa VM, King CE, Kalan L, Morar M, Sung WWL, Schwarz C, Froese D, Zazula G, Calmels F, Debruyne R, Golding GB, Poinar HN, Gerard D, Wright GD: Antibiotic resistance is ancient. *Nature* 477, 457–461 (2011).
12. Diaz PI, Hoare A, Hong BY: Subgingival microbiome shifts and community dynamics in periodontal diseases. *CDA Journal* 44 (7), 421–435 (2016).
13. Dombrowa S: Sinnhaftigkeit der mikrobiologischen Diagnostik in der Therapie von Parodontitis und Periimplantitis. *ZMK* 7/8, 422–426 (2010).
14. ECDC. Last-line antibiotics are failing, press release. <https://ecdc.europa.eu/en/news-events/last-line-antibiotics-are-failing>. (2016).

15. Eick S, Seltmann T, Pfister W: Efficacy of antibiotics to strains of periodontopathogenic bacteria within a single species biofilm – an in vitro study. J Clin Periodontol 31, 376–383 (2004).
16. EU-Kommission Deutschland: EU geht gegen resistente, gefährliche Keime vor. https://ec.europa.eu/germany/news/eu-geht-gegen-resistente-gef%C3%A4hrliche-keime-vor_de. (2017).
17. Ezzo P, Cutler CW: Microorganisms as risk indicators for periodontal disease. Periodontol 2000, 32, 24–35 (2003).
18. Folwaczny M, Hickel R: Biofilm – Problem oder Perspektive? DZZ 58 (12), 648–659 (2003).
19. **G20-Gesundheitsministertreffen.** Gemeinsam Pandemien verhindern. <https://www.bundesregierung.de/Content/DE/Artikel/2017/05/2017-05-19-g20-gesundheitsministertreffen.html>. (2017).
20. Haffajee AD, Socransky SS, Gunsolley JC: Systemic anti-infective periodontal therapy. A systemic review. Ann Periodontol 8 (1), 115–181 (2003).
21. Halling F: Polypharmakotherapie: Zu Risiken und Nebenwirkungen. MBZ 02, 10–16 (2015).
22. Hernichel-Grobach E: Subgingivales Scaling im Rahmen des Biofilmmanagements. Parodontologie 19 (3), 219–232 (2008).
23. Herrera D, Alonso B, León R, Roldán S, Sanz M: Antimicrobial therapy in periodontitis: the use of systemic antimicrobials against the subgingival biofilm. J Clin Periodontol 35 (8), 45–66 (2008).
24. Höffler D, [Stahlmann R](#): Unerwünschte Wirkungen und Risiken von Fluorchinolonen. Dtsch Arztebl 97 (45), A-3022 / B-2553 / C-2272 (2000).
25. Hong B-Y, Furtado Araujo MV, Strausbaugh LD, Terzi E, Ioannidou E, Diaz PI: (Microbiome profiles in periodontitis in relation to host and disease characteristics. PLoS ONE 10 (5), 1–14 (2015).
26. Jaroch M, Kielbassa AM: Der dentale Biofilm – Voraussetzung dentaler und parodontaler Erkrankung. Dentalhygiene Journal (2), 10–14 (2009).
27. KVBW: Antibiotikatherapie in der Praxis/Verordnungsforum 36, November 2015.
28. Kilian M, Chapple ILC, Hannig M, Marsh PD, Meuric V, Pedersen AML, Tonetti MS, Wade WG, Zaura E: The oral microbiome – an update for oral healthcare professionals. British Dental Journal 10, 657–666 (2016).
29. Labriola A, Needleman I, Moles DR: Systematic review of the effect of smoking on nonsurgical periodontal therapy. Periodontology 2000 37, 124–137 (2005).
30. Lewis K: Riddle of biofilm resistance. Minireview. Antimicrobial Agents and Chemotherapy 45 (4), 999–1007 (2001).

31. Marsh PD: Microbial ecology of dental plaque and its significance in health and disease. *Adv Dent Res* 8 (2), 263–271 (1994).
32. Marsh PD, Zaura E: Dental biofilm: ecological interactions in health and disease. *J Clin Periodontol* 44 (Suppl. 18), 12–22 (2017).
33. Paster BJ, Olsen I, Aas JA, Dewhirst FE: The breadth of bacterial diversity in the human periodontal pocket and other oral sites. *Periodontology* 2000 42, 80–87 (2006).
34. Position Paper: Systemic antibiotics in periodontics. *J Periodontol* 75, 1553–1565 (2004).
35. Positionspapier der Kommission ART zu infektiologischen Leitlinien. http://www.rki.de/DE/Content/Kommissionen/ART/Positionspapier/Positionspapier_Leitlinien-in-der-Infektionsmedizin.html.
36. Quirynen M, Mongardini C, Pauwels M, Bollen CML, van Elderle J, van Steenberghe D: One stage full- versus partial-mouth disinfection in the treatment of chronic adult or generalized early-onset periodontitis. II. Long-term impact on microbial load. *J Periodontol* 70, 646–656 (1999).
37. Socransky SS, Haffajee AD, Cugini MA, Smith C, Kent RL: Microbial complexes in subgingival plaque. *J Clin Periodontol* 25, 134–144 (1998).
38. Socransky SS, Smith C, Haffajee AD: Subgingival microbial profiles in refractory periodontal disease. *J Clin Periodontol* 29, 260–268 (2002).
39. Stewart PS, Costerton WJ: Antibiotic resistance of bacteria in biofilms. *The Lancet* 358 (9276), 135–138 (2001).
40. Taylor J, Pemberton MN: Antibiotics and oral contraceptives: new considerations for dental practice. *Brit Dent Journal* (10), 481–483 (2012).
41. Van Winkelhoff AJ, Winkel EG: Microbiological diagnostics in periodontics: biological significance and clinical validity. *Periodontology* 2000 39, 40–52 (2005).

Wie eine verfrühte Füllungstherapie vermieden werden kann
Kariesdiagnoseverfahren und differenzierte Kariestherapie

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Literatur

- [1] Marcenes, W. et al., Global burden of oral conditions in 1990-2010: a systematic analysis. J Dent Res, 2013. 92(7):592-7.
- [2] Fünfte Deutsche Mundgesundheitsstudie (Kurzversion):
https://www.bzaek.de/fileadmin/PDFs/dms/Zusammenfassung_DMS_V.pdf.
- [3] Nyvad, B., [Caries in the elderly: diagnosis and treatment]. Tandlaegebladet, 1987. 91(8):353-8.
- [4] Topping, G. V. et al., Clinical visual caries detection. Monogr Oral Sci, 2009. 21:15-41.
- [5] Nyvad, B., V. Machiulskiene, and V. Baelum, Reliability of a new caries diagnostic system differentiating between active and inactive caries lesions. Caries Res, 1999. 33(4):252-60.
- [6] Eichenberger, M. et al., Influence of loupes and age on the near visual acuity of practicing dentists. J Biomed Opt, 2011. 16(3):035003.
- [7] Eichenberger, M. et al., Visual Acuity and Experience with Magnification Devices in Swiss Dental Practices. Oper Dent, 2015. 40(4):E142-9.
- [8] Perrin, P. et al., Visual acuity and magnification devices in dentistry. Swiss Dent J, 2016. 126(3):222-35.
- [9] Perrin, P. et al., Visual acuity of dentists in their respective clinical conditions. Clin Oral Investig, 2014. 18(9):2055-8.
- [10] Chandler, N.P., A.R. Gray, and C.M. Murray, Eyesight: a study of the staff of a dental school. BDJOpen, 2017. 3:17008.
- [11] Perrin, P. et al., A near visual acuity test for dentists. Oper Dent, 2017. (akzeptiert)
- [12] Neuhaus, K.W. et al., Impact of different magnification levels on visual caries detection with ICDAS. J Dent, 2015. 43(12):1559-64.
- [13] Eichenberger, M. et al., Visual acuity of dentists under simulated clinical conditions. Clin Oral Investig, 2013. 17(3):725-9.

- [14] Neuhaus, K.W., E. Jasarevic, and A. Lussi, Impact of Different Illumination Conditions on Visual Caries Detection with ICDAS. *Caries Res*, 2015. 49(6):633-6.
- [15] Nyvad, B., V. Machiulskiene, and V. Baelum, Construct and predictive validity of clinical caries diagnostic criteria assessing lesion activity. *J Dent Res*, 2003. 82(2):117-22.
- [16] Ekstrand, K.R., D.N. Ricketts, and E.A. Kidd, Occlusal caries: pathology, diagnosis and logical management. *Dent Update*, 2001. 28(8):380-7.
- [17] Neuhaus, K.W. et al., Removal of enamel caries with an air abrasion powder. *Oper Dent*, 2010. 35(5):538-46.
- [18] Neuhaus, K.W. et al., Traditional lesion detection aids. *Monogr Oral Sci*, 2009. 21:42-51.
- [19] Lussi, A., Comparison of different methods for the diagnosis of fissure caries without cavitation. *Caries Res*, 1993. 27(5):409-16.
- [20] Kuhnisch, J. et al., Effects of dental probing on occlusal surfaces – a scanning electron microscopy evaluation. *Caries Res*, 2007. 41(1):43-8.
- [21] Nyvad, B., Diagnosis versus detection of caries. *Caries Res*, 2004. 38(3):192-8.
- [22] Kidd, E.A. and N.B. Pitts, A reappraisal of the value of the bitewing radiograph in the diagnosis of posterior approximal caries. *Br Dent J*, 1990. 169(7):195-200.
- [23] Wenzel, A., Bitewing and digital bitewing radiography for detection of caries lesions. *J Dent Res*, 2004. 83 Spec No C:C72-5.
- [24] Machiulskiene, V., B. Nyvad, and V. Baelum, A comparison of clinical and radiographic caries diagnoses in posterior teeth of 12-year-old Lithuanian children. *Caries Res*, 1999. 33(5):340-8.
- [25] Hintze, H., A. Wenzel, and B. Danielsen, Behaviour of approximal carious lesions assessed by clinical examination after tooth separation and radiography: a 2.5-year longitudinal study in young adults. *Caries Res*, 1999. 33(6):415-22.
- [26] Brägger, U. et al., Qualitätsleitlinien: Radiologie und Strahlenschutz. *Schweiz Monatsschr Zahnmed*, 2005. 115(7):25-35.
- [27] Espelid, I. et al., EAPD guidelines for use of radiographs in children. *Eur J Paediatr Dent*, 2003. 4(1):40-8.
- [28] Pendlebury, M.E. et al., Selection criteria for dental radiography. 2nd ed. 2004.

- [29] Affairs, A.D.A.C.o.S., The use of dental radiographs: update and recommendations. J Am Dent Assoc, 2006. 137(9):1304-1312.
- [30] Neuhaus, K.W. et al., Novel lesion detection aids. Monogr Oral Sci, 2009. 21:52-62.
- [31] Kuhnisch, J. et al., In vivo validation of near-infrared light transillumination for interproximal dentin caries detection. Clin Oral Investig, 2016. 20(4):821-9.
- [32] Huth, K.C. et al., In vivo performance of a laser fluorescence device for the approximal detection of caries in permanent molars. J Dent, 2010. 38(12):1019-26.
- [33] Huth, K.C. et al., Clinical performance of a new laser fluorescence device for detection of occlusal caries lesions in permanent molars. J Dent, 2008. 36(12):1033-40.
- [34] Lussi, A. and E. Hellwig, Performance of a new laser fluorescence device for the detection of occlusal caries in vitro. J Dent, 2006. 34(7):467-71.
- [35] Lussi, A. et al., Clinical performance of a laser fluorescence device for detection of occlusal caries lesions. Eur J Oral Sci, 2001. 109(1):14-9.
- [36] Rodrigues, J.A. et al., Evaluation of laser fluorescence in monitoring non-cavitated caries lesion progression on smooth surfaces in vitro. Lasers Med Sci, 2017.
- [37] Lussi, A. et al., Influence of professional cleaning and drying of occlusal surfaces on laser fluorescence in vivo. Caries Res, 2005. 39(4):284-6.
- [38] Neuhaus, K.W. et al., Evaluation of perpendicular reflection intensity for assessment of caries lesion activity/inactivity. Caries Res, 2011. 45(4):408-14.

Update Kariesinfiltration 2017

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ZMK 10 und ZMK 11/2017 (33)

1. Kidd EAM, Fejerskov O. What constitutes dental caries? Histopathology of carious enamel and dentin related to the action of cariogenic biofilms. *J Dent Res* 2004; 83 (Spec. No.): C35-38
2. Ekstrand KR, Martignon S. Visuell-taktile Detektion und Beurteilung. In: Meyer-Lueckel H, Ekstrand KR, Paris S, Hrsg. *Karies: Wissenschaft & Klinische Praxis*. Stuttgart - New York: Thieme; 2012: 76-94
3. Knosel M, Eckstein A, Helms HJ. Durability of esthetic improvement following Icon resin infiltration of multibracket-induced white spot lesions compared with no therapy over 6 months: a single-center, split-mouth, randomized clinical trial. *Am J Orthod Dentofacial Orthop* 2013; 144: 86-96
4. Senestraro SV, Crowe JJ, Wang M, Vo A, Huang G, Ferracane J, Covell DA, Jr. Minimally invasive resin infiltration of arrested white-spot lesions: a randomized clinical trial. *J Am Dent Assoc* 2013; 144: 997-1005
5. Eckstein A, Helms HJ, Knosel M. Camouflage effects following resin infiltration of postorthodontic white-spot lesions in vivo: One-year follow-up. *Angle Orthod* 2015; 85: 374-380
6. Hammad SM, El Banna M, El Zayat I, Mohsen MA. Effect of resin infiltration on white spot lesions after debonding orthodontic brackets. *Am J Dent* 2012; 25: 3-8
7. Kim S, Kim EY, Jeong TS, Kim JW. The evaluation of resin infiltration for masking labial enamel white spot lesions. *Int J Paediatr Dent* 2011; 21: 241-248
8. Araujo GS, Naufel FS, Alonso RC, Lima DA, Puppim-Rontani RM. Influence of Staining Solution and Bleaching on Color Stability of Resin Used for Caries Infiltration. *Oper Dent* 2015; 40: E250-256
9. Paris S, Meyer-Lueckel H. Masking of labial enamel white spot lesions by resin infiltration - a clinical report. *Quintessence Int* 2009; 40: 713-718
10. Crombie F, Manton D, Palamara J, Reynolds E. Resin infiltration of developmentally hypomineralised enamel. *Int J Paediatr Dent* 2014; 24: 51-55
11. Attal JP, Atlan A, Denis M, Vennat E, Tirlet G. White spots on enamel: treatment protocol by superficial or deep infiltration (part 2). *Int Orthod* 2014; 12: 1-31
12. Schwendicke F, Frencken JE, Bjørndal L, Maltz M, Manton DJ, Ricketts D, Van Landuyt K, Banerjee A, Campus G, Doméjean S, Fontana M, Leal S, Lo E, Machiulskiene V, Schulte A, Splieth C, Zandona AF, Innes NP: Managing carious lesions: consensus recommendations on carious tissue removal. *Adv Dent Res* 28 (2): 58–67 (2016).