

Herzenssache Mundgesundheit: Die orale Dysbiose als kardiometabolischer Risikofaktor

Adrian Rothfels, M.Sc.
Erich-Dombrowski-Straße 3
51127 Mainz | Deutschland
rothfels@ganzimmun.de

Literatur

- [1] Elghannam MT et al. (2024) Oral microbiome dysbiosis and gastrointestinal diseases: a narrative review. *Egypt Liver Journal*, 14(1):32.
- [2] Saadeh M et al. (2025) Oral microbiome and inflammatory bowel disease: New understanding and call to action. *World J Gastroenterol*, 31(38):111210.
- [3] Azzolino D et al. (2025) The Oral-Gut Microbiota Axis Across the Lifespan: New Insights on a Forgotten Interaction. *Nutrients*, 17(15):2538.
- [4] Fernandes GV et al. (2024) Revisiting Socransky's Complexes: A Review Suggesting Updated New Bacterial Clusters (GF-MoR Complexes) for Periodontal and Peri-Implant Diseases and Conditions. *Microorganisms*, 12(11):2214.
- [5] Dewhirst FE et al. (2010) The human oral microbiome. *J Bacteriol*, 192(19):5002–5017.
- [6] Rajasekaran JJ et al. (2024) Oral Microbiome: A Review of Its Impact on Oral and Systemic Health. *Microorganisms*, 12(9):1797.
- [7] Zhang M et al. (2022) Polymicrobial Interactions of Oral Microbiota: a Historical Review and Current Perspective. *mBio*, 13(3):e0023522.
- [8] Giordano-Kelhoff B et al. (2022) Oral Microbiota, Its Equilibrium and Implications in the Pathophysiology of Human Diseases: A Systematic Review. *Biomedicines*, 10(8):1803.
- [9] Lv C et al. (2025) Formation, architecture, and persistence of oral biofilms: recent scientific discoveries and new strategies for their regulation. *Front Microbiol*, 16:1602962.
- [10] DeClercq V et al. (2024) Oral microbial signatures associated with age and frailty in Canadian adults. *Sci Rep*, 14(1):9685.
- [11] Yue Z et al. (2025) The oral microbiome in aging: a window into health and longevity. *J Oral Microbiol*, 17(1):2589648.
- [12] Demmitt BA et al. (2017) Genetic influences on the human oral microbiome. *BMC Genomics*, 18(1):659.
- [13] Li C'e et al. (2022) A genetic association study reveals the relationship between the oral microbiome and anxiety and depression symptoms. *Front Psychiatry*, 13:960756.
- [14] Stankevic E et al. (2024) Genome-wide association study identifies host genetic variants influencing oral microbiota diversity and metabolic health. *Sci Rep*, 14(1):14738.
- [15] Peterson SN et al. (2011) Dental caries pathogenicity: a genomic and metagenomic perspective. *Int Dent J*, 61 Suppl 1(Suppl 1):11–22.
- [16] Spatafora G et al. (2024) The Evolving Microbiome of Dental Caries. *Microorganisms*, 12(1):121.
- [17] Hajishengallis G et al. (2020) Current understanding of periodontal disease pathogenesis and targets for host-modulation therapy. *Periodontol 2000*, 84(1):14–34.
- [18] Gao L et al. (2018) Oral microbiomes: more and more importance in oral cavity and whole body. *Protein Cell*, 9(5):488–500.
- [19] O. Kistler J et al. (2013) Bacterial Community Development in Experimental Gingivitis. *8(8):e71227*.
- [20] Wang S et al. (2024) Oral microbiome and its relationship with oral cancer. *J Cancer Res Ther*, 20(4):1141–1149.
- [21] Zhao H et al. (2017) Variations in oral microbiota associated with oral cancer. *Sci Rep*, 7(1):11773.
- [22] Hampelska K et al. (2020) The Role of Oral Microbiota in Intra-Oral Halitosis. *J Clin Med*, 9(8):2484.
- [23] Nakano Y et al. (2002) Correlation between oral malodor and periodontal bacteria. *Microbes Infect*, 4(6):679–683.
- [24] García HC et al. (2025) Diet and nutrition key factors for oral microbiota composition: a systematic review. *Food Nutr Res*, 69:1956.
- [25] Nath S et al. (2025) The influence of diet, saliva, and dental history on the oral microbiome in healthy, caries-free Australian adults. *Sci Rep*, 15(1):18755.
- [26] Wu J et al. (2016) Cigarette smoking and the oral microbiome in a large study of American adults. *ISME J*, 10(10):2435–2446.
- [27] Jia Y-J et al. (2021) Association Between Oral Microbiota and Cigarette Smoking in the Chinese Population. *Front Cell Infect Microbiol*, 11:658203.
- [28] Farrell JJ et al. (2012) Variations of oral microbiota are associated with pancreatic diseases including pancreatic cancer. *Gut*, 61(4):582–588.
- [29] Fan X et al. (2018) Drinking alcohol is associated with variation in the human oral microbiome in a large study of American adults. *Microbiome*, 6(1):59.
- [30] Yussuf A et al. (2020) A meta-analysis of the effect of binge drinking on the oral microbiome and its relation to Alzheimer's disease. *Sci Rep*, 10(1):19872.
- [31] Peng X et al. (2022) Oral microbiota in human systematic diseases. *Int J Oral Sci*, 14(1):14.

- [32] Patangia DV et al. (2022) Impact of antibiotics on the human microbiome and consequences for host health. *Microbiologyopen*, 11(1):e1260.
- [33] Al-Marzooq FI, Christidis N (2025) The interconnection of oral and systemic health. *Sci Rep*, 15(1):14931.
- [34] DGZMK (2025) Kariesprävention bei bleibenden Zähnen – grundlegende Empfehlungen: S3-Leitlinie (Leitlinienreport) (2. Aufl.). AWMF-Leitlinie, <https://register.awmf.org/de/leitlinien/detail/083-021>.
- [35] Bourgeois D et al. (2025) Editorial: Exploring oral microbiota dysbiosis as a risk factor for oral and non-communicable diseases. *Front Oral Health*, 6:1611120.
- [36] Min Z et al. (2023) Oral microbiota dysbiosis accelerates the development and onset of mucositis and oral ulcers. *Front Microbiol*, 14:1061032.
- [37] Kawamoto D et al. (2021) Oral Dysbiosis in Severe Forms of Periodontitis Is Associated With Gut Dysbiosis and Correlated With Salivary Inflammatory Mediators: A Preliminary Study. *Front Oral Health*, 2:722495.
- [38] Rozenblum G et al. (2025) Unraveling the oral microbiome's role in Alzheimer's disease: From pathophysiology to therapeutic potential. *Alzheimers Dement*, 21(12):e71011.
- [39] Rebelo MB et al. (2023) Novel Strategies for Preventing Dysbiosis in the Oral Cavity. *Front Biosci (Elite Ed)*, 15(4):23.
- [40] Georges FM et al. (2022) Oral dysbiosis and systemic diseases. *Front. Dent. Med.*, 3:995423.
- [41] Xu Q et al. (2025) The oral-gut microbiota axis: a link in cardiometabolic diseases. *NPJ Biofilms Microbiomes*, 11(1):11.
- [42] Chhibber-Goel J et al. (2016) Linkages between oral commensal bacteria and atherosclerotic plaques in coronary artery disease patients. *NPJ Biofilms Microbiomes*, 2:7.
- [43] Lourenço TG et al. (2014) Microbial signature profiles of periodontally healthy and diseased patients. *J Clin Periodontol*, 41(11):1027–1036.
- [44] Plachokova AS et al. (2021) Oral Microbiome in Relation to Periodontitis Severity and Systemic Inflammation. *Int J Mol Sci*, 22(11):5876.
- [45] Yamazaki K, Kamada N (2024) Exploring the oral-gut linkage: Interrelationship between oral and systemic diseases. *Mucosal Immunol*, 17(1):147–153.
- [46] Wang S et al. (2021) *Fusobacterium nucleatum* Acts as a Pro-carcinogenic Bacterium in Colorectal Cancer: From Association to Causality. *Front Cell Dev Biol*, 9:710165.
- [47] Huang X et al. (2023) The oral microbiome in autoimmune diseases: friend or foe? *J Transl Med*, 21(1):211.
- [48] Plaza K et al. (2016) Gingipains of *Porphyromonas gingivalis* Affect the Stability and Function of Serine Protease Inhibitor of Kazal-type 6 (SPINK6), a Tissue Inhibitor of Human Kallikreins. *J Biol Chem*, 291(36):18753–18764.
- [49] Ruan Q et al. (2023) *Porphyromonas gingivalis* regulates atherosclerosis through an immune pathway. *Front Immunol*, 14:1103592.
- [50] Gregorczyk-Maga I et al. (2023) Oral Microbiota-One Habitat or Diverse Niches? A Pilot Study of Sampling and Identification of Oral Bacterial and Fungal Biota in Patients with Type I Diabetes Mellitus Treated with Insulin Pump. *Int J Environ Res Public Health*, 20(3).
- [51] Farooq I, Bugshan A (2020) The role of salivary contents and modern technologies in the remineralization of dental enamel: a review. *F1000Res*, 9:171.
- [52] Santonocito S et al. (2022) A Cross-Talk between Diet and the Oral Microbiome: Balance of Nutrition on Inflammation and Immune System's Response during Periodontitis. *Nutrients*, 14(12):2426.