

Applications of Artificial Intelligence in Prosthodontics and the Changes It Has Brought to Clinical Practice

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The integration of artificial intelligence (AI) into dentistry is reshaping clinical practice by improving the accuracy, efficiency, and predictability of digital workflows. In prosthodontics, AI-based technologies are increasingly being applied to diagnosis, treatment planning, prosthesis design, and communication within the dental team. These developments are particularly meaningful in the treatment of older adults, who often present with complex oral conditions, edentulism, functional limitations, and heightened esthetic demands. As digital tools become more deeply incorporated into routine care, the importance of scientific validation and internationally recognized standards has become even greater to ensure accuracy, compatibility, and reliability across clinical workflows.

This lecture will focus on the clinical application of AI in prosthodontics and the changes it has introduced into contemporary dental practice. Particular attention will be given to the role of international standards for CAD/CAM systems and intraoral scanners, as well as to recent advances in AI-assisted CAD software, digital prosthetic workflows, and related material technologies. In addition, the lecture will discuss how standardized protocols support more effective communication and data sharing among clinicians and technicians, leading to more consistent and predictable treatment outcomes. Through selected clinical cases, this lecture aims to provide practical insights into how AI-driven technologies can enhance prosthodontic care and improve treatment quality and patient satisfaction in daily practice.

Profile

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