The future of dentistry: Technology is knocking on our door

A technological renaissance has arrived, largely in part due to advances in computer technology. Advances in communication, construction, teaching and medicine have all benefited from this technology. Dentistry has been cautious about implementing many new ideas, because the prototypes were often very disappointing. CEREC, or ceramic reconstruction, has finally reached a level of accuracy that rivals or surpasses the accuracy of indirect restorations made by hand and digital radiography is now the standard in imaging. The major areas of dentistry that will see an explosion of technology will be presented. The fastest growing area of dentistry is imaging, using a variety of digital instruments to accurately obtain two and three-dimensional images in real time. This technology will be used in all aspects of dentistry, but in particular, diagnosis and treatment planning. New aspects of imaging will involve using three-dimensional imaging in real time to discover cracks in teeth and mapping of caries throughout a tooth. A movement away from metal and ceramic will occur with the use of bioactive and smart materials and materials that will regenerate tooth structures, perhaps with stem cells. Three-dimensional printing will become the standard for the fabrication of everything in the office. Devices using technology from the airline industry, using heads-up-display and recognition software, will make dentistry safer. Most importantly, the profession will come to embrace that all patients are unique in their genetic makeup and personalized medicine will become standard treatment for patients in the future.

Biography

William J Dunn is a graduate of the University of Texas Dental School at Houston, Texas. He completed a Residency in Comprehensive Dentistry at Keesler Medical Center in Biloxi, Mississippi in 1994. He completed a Fellowship in Dental Biomaterials at the University Florida in 2000. He is a Diplomate of the American Board of General Dentistry and is a Fellow of the Academy of Dental Materials. He served as Military Consultant to the Surgeon General for dental research, medical ethics, materials, devices and investigations. He has published more than 46 papers and has spoken extensively at national and international conferences. 

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