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NEW TECHNOLOGY IN DENTISTRY

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Annotation: The dental industry is transforming into a fully-digital one quicker than most dentists imagined, and 3D technologies are completely altering the way in which dental solutions can be approached. The latest 3D printing innovation could change the way you think about your visit to the dentist. As the researchers from all over the world are working on the creation of a 3D-printed tooth made of an antimicrobial plastic that kills the bacteria responsible for tooth decay on contact. To test the bacteria-fighting tooth in a lab environment, the researchers coated the material with human saliva and exposed it to the bacterium that causes tooth decay. The anti-bacterial tooth killed more than 99% of all bacteria and showed no signs of being harmful to human cells. It should be pointed out that 3D-printing has not still become a reality. The 3D-printing innovation, for example, is still not ready for clinical trials and has not yet been tested inside a human mouth. Moreover, there is a significant problem of how the tooth might react to brushing and the application of toothpaste. However, it is hard to deny the growing role of 3D printers in medicine and dentistry. Using 3D printers, there are ongoing attempts to "bio-print" human bone, skin, tissue and even organs.

Key Words: Digital dentistry, Laser Dentistry, technology, digital imaging, dental care, 3D printing, frenectomies, specialized equipment.

Introduction

The field of dentistry has been rapidly evolving with the advancement of technology. New technologies are constantly being introduced to improve the quality of dental care and enhance patient experience. In this paper, we will discuss some of the latest technologies in dentistry and their impact on the practice of dentistry.

Digital Dentistry

Digital dentistry is a broad term that encompasses various technologies such as digital imaging, computer-aided design and manufacturing (CAD/CAM), and 3D printing. These technologies have revolutionized the way dental procedures are performed, making them more accurate, efficient, and patient-friendly.

Digital imaging, such as cone-beam computed tomography (CBCT) and intraoral scanners, allows for high-resolution 3D images of the oral cavity, aiding in diagnosis and treatment planning. CBCT has become an essential tool in implant dentistry, providing detailed information about bone density and anatomy. Intraoral scanners eliminate the need for traditional impressions, reducing patient discomfort and improving accuracy.

CAD/CAM technology has also made significant advancements in dentistry. With this technology, restorations such as crowns, bridges, and veneers can be designed and milled in-office, eliminating the need for multiple appointments and temporary restorations. This results in faster treatment times and improved patient satisfaction.

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3D printing has also found its way into dentistry, allowing for the fabrication of surgical guides, models, and even custom-made prostheses. This technology has greatly improved the accuracy and precision of dental procedures, resulting in better outcomes for patients.

Laser Dentistry

Laser technology has been used in dentistry for many years, but recent advancements have made it an essential tool in various procedures. Lasers are now used for soft tissue surgeries, such as gum contouring and frenectomies, as well as for hard tissue procedures like cavity preparation and root canal disinfection.

The use of lasers in dentistry has many advantages, including minimal bleeding, reduced post-operative pain, and faster healing times. It also allows for more precise and conservative treatment, preserving healthy tissue and reducing the risk of complications.

Virtual Reality

Virtual reality (VR) is a technology that creates a simulated environment that can be interacted with using specialized equipment, such as headsets and gloves. In dentistry, VR has been used to reduce patient anxiety and fear during dental procedures. By immersing patients in a virtual world, they can be distracted from the dental treatment, making it more tolerable and less stressful.

Tele-dentistry

Tele-dentistry is a relatively new technology that allows for remote communication between dentists and patients. This technology has become increasingly important during the COVID-19 pandemic, as it allows for virtual consultations and follow-ups, reducing the need for in-person visits. Tele-dentistry also enables dentists to provide care to patients in remote areas or those with limited mobility.

Conclusion: The advancements in technology have greatly influenced the practice of dentistry, making it more efficient, accurate, and patient-friendly. Digital dentistry, laser technology, virtual reality, and tele-dentistry are just a few examples of how technology has improved the field of dentistry. As technology continues to advance, we can expect even more innovations that will further enhance the quality of dental care.

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