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What Does the Future Hold for Dentistry?

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ABSTRACT

Thanks to the many ongoing research pieces in the field, it seems that the future of dentistry will be incredibly bright. Read on to learn more.

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Introduction

The field of dentistry has come a long way. There was a time when people who had had an accident and lost their teeth in the process had to live with empty sockets in their gums for the lack of treatment. But now, the mind-blowing advancements in the oral health industry have led people with dental problems to near-perfect oral hygiene.

Denture replacements, complete tooth implants, digitized imagining, and many more similar breakthroughs in orthodontics and periodontics of the present-day enable people to have perfectly aligned, sparkling teeth. But that's not the ultimate end of advancements in dentistry. In fact, this is just the beginning, with an abundance of innovation and ultramodern dental technology is on the horizon.

Currently, oral health experts are working on multiple new dental techniques using various sciences, such as nanotechnology, advanced imagining, and computer-aided designing. Once mass-marketed, the possible future developments will most likely take dental diagnosis, care, and treatment to the next level. To better understand what the future holds for dentistry, a deeper look into the in-the-works dental advancements is warranted.

Nanotechnology and Dentistry

- With the use of nanoparticles to build nano-devices and systems, experts have devised ways to diagnose dental infections and possible tumors early on in their growth.
- Moreover, once diagnosed, the infected sites could be treated with targeted exposure to relevant drugs using dendrimers and nanoshells.

Figure 1.

A tool kit in a dentistry clinic

- Dendrimers and nanoshells are nanoscopic macromolecular structures, which means medications delivered using said nanoparticles will allow dentists to treat damaged/diseased teeth and gums with complex biochemical compounds.
- One of the most common fears people have when seeking dental treatment is getting injected with anesthesia that sends a sharp pain shooting throughout the mouth. That is also why many patients delay going to a dentist, leading to more damage to the teeth/gingiva. But now, with the help of nanoparticles,

oral hygiene experts are working on a colloidal suspension with millions of active analgesic micron-sized particles that will be instilled in a patient's gums. This will result in the release of numbing agents that will travel to the pulp of the aching tooth and switch off the nerves that create the sensation of pain.

- A common form of dental treatment is sliding a tooth through an arched wire, which creates frictional forces, exerting excessive pressure on the roots. This extreme force can at times lead to loss of bone and anchorage. But thanks to nanotechnology, the said issue could be tackled. By coating the wire in a colloidal solution containing nanoparticles known for their dry lubrication properties, the friction produced during the sliding process is significantly reduced.

Digitized Imagining

- Digitized imagining is enabling dentists to view the oral structure of patients in great detail, allowing them to come up with better and more precise implants.
- Another benefit of digitized imaging is the facility to see a clear picture of how a particular treatment will turn out, informing patients of what the end result of dental treatment will be.

Computer-Aided Designing

- Computer-aided designing has helped oral healthcare experts to create exact replicas of people's teeth and placing them perfectly into the empty sockets. Unsurprisingly, this improved construction of faux teeth and the subsequent more accurate placement will give patients more natural smiles.

Conclusion

With dental professionals working hard on innovations in the field, it's safe to say that soon dental treatment will be revolutionized.