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Nanorobotics in conservative dentistry and endodontics

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There is plenty of room at the bottom said the Nobel Prize winner physicist Richard Feynman at American physical society meeting in 1959. In his talk he explored the implication of matter manipulation. We all know that nanotechnology is accomplished by manipulating matter at atomic level and growing interest in the future of dental application in nanotechnology leads to the expansion of techniques to the conventional robotics applications. Developing new advanced robots for numerous health care applications is an emerging research trend in field of robotics globally. The use of nanorobots may advance biomedical intervention with minimum invasive procedure and help patients who need constant body function monitoring. This study focuses on the state of art in emerging field of nanorobotics applications in dentistry specifically in conservative dentistry, endodontics and aesthetic dentistry. Dental nanorobots might use specific motility mechanism to penetrate human tissue with navigation precision, acquire energy and sense to manipulate their surrounding in real time. Although there could be many treatment modalities in dentistry, treatment possibilities might include the repair of carious teeth and remove blemishes of the tooth. Dental nanorobots could be placed intracoronally for non-vital tooth bleaching for pulpal regeneration inducing anesthesia. They can also remove hypersensitivity completely by remineralisation of dentinal tubules. They could be well used for aesthetic purpose also. They can swim in pulp chamber and canal so that can prevent the inflammation and also control the infection in the canal.

Biography

Neeta Patel has passion of serving humanity with a wide ranging experience and knowledge of 27 years in Dentistry as a Clinician and Academician. Presently she is working as a Reader and Assistant Professor at AMC Dental College, Ahmedabad, India.

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