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Editorial

Robolution: A future revolution?

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In the last decade (2010-2022) we have witnessed the evolution of robots in the field of orthodontics. Right from robots assisting the dentist as the dental assistant to the diagnostic assistance, robotic arch wire bending, nano/microbots, and patient education with robotic assistance, in oral maxillofacial surgeries, in TMJ rehabilitation and in aligner therapy. The branch of orthodontics has always aimed to improve the efficacy and efficiency of any form of treatment that any patient undergoes. With the help of these robots the higher efficiency, precision and higher stability in results can be achieved.

Though the components of robots seems to be complicated the concept of robotics can be easily understood if its viewed through their three simple basic principles 1) they are mechanically constructed to achieve a particular task, 2) have a power source 3) have a pre-coded programmes to achieve a specific task. In the testing times like Covid-19 if the robots were already available in the market it would have been game changer not only in orthodontics but in the medical field as a whole. We are in era of digital orthodontics where are shifting our views from 2-D to 3-D simulation of patient problem to reach an accurate diagnosis. Robotic X-ray positioning and imaging, nanobots with nanomaterials (NEMS) which can be used for accelerated tooth movements, robotic activation of certain appliances, robotic simulation of mandibular and condylar movements are the other application in this field. A Notable invention, dental implant navigation robot system by Neocis Inc, called Yomi, received FDA approval and became the world's first commercially available oral implant robot. With today's technological advancement the more accurate work efficient programmes can be designed in the robots using Machine learning (ML) and artificial intelligence (AI). AI helps to plan a sequence of actions that is required in that particular situation automatically to reach a specific goal. But can robotic orthodontics *(Rob-Ortho) (Robodontics)* completely replace a real orthodontist working on his patient?. As it is difficult for a patient to reconcile themselves to a situation in which one practitioner in whom they have confidence turns to be a machine that can be controlled by simple switch on! Off!..

Other scenarios like nanobots an area specific drug delivery system which are still under development will it be cost effective?. What about safety? What about patient's Privacy? And one of the greatest challenges is that the workspace of these robots will be limited by the oral cavity, so the structural design of those robots with their power source should be as small as a size of a sim-card. So what about the design and size of robotic device in oral cavity? These are the questions the future yet have to answer.

So hereby, I conclude that, especially in today's world where time has become something indispensable and aesthetic concentrations that has reached its pinnacle, it's high time for the Artificial intelligence to take up its place and revolutionize the field of orthodontics.

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Conflict of Interest

None.

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