

**EDITORIAL****2023 PREDICTIONS - A GLIMPSE INTO THINGS TO COME**

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India as a developing country has been grappling with the strategies related to Health due to its exploding population, varying socio-economic scenario, lack of awareness and education on health; and the Government has been struggling to provide healthcare infrastructure across the country due to its vastness.

Poor Oral Health can have negative impact on physical health, including an increased risk of diseases such as diabetes, heart disease, and respiratory infections. Additionally, oral health can also have significant impact on mental health and quality of life. Oral Health has not been getting the right kind of impetus as it deserves, however during past two years, the focus is shifting, and healthy oral cavity has come to be realized as the nidus for overall health once again.

Clove Dental envisions a goal of reducing Dental Health disparities, ensuring equity in Dental treatment thereby improving overall Dental Health in India. Clove Dental has been working towards improvement of Dentistry in India with many new techniques and technologies being adopted that has transformed the way, the dental practices are being managed. Additionally, Clove Dental as the largest Dental chain in the country, has worked towards a more holistic and prevention and minimally invasive approach to dental care, thereby increasing the acceptance and awareness across the country. Clove Dental as an organization has been working to educate the public about the importance of maintaining good oral hygiene and the role of regular dental check-ups in preventing dental problems which essentially will translate into improved oral health outcomes for the population.

Dental Aligners, Implants and CAD CAM are three common modalities used in dentistry which hold immense potential to change the landscape of healthcare and oral health services. All three of them have seen increasing use in recent years. Over time, this shall unfold many more uses of these techniques, in many other areas which are as yet unheard of.

**DENTALALIGNERS**

Dental Aligners are a type of orthodontic appliance that is used to straighten teeth and correct misalignment. They are made of clear, thin plastic and are designed to fit snugly over the teeth. Aligners are being used currently

to correct gaps between teeth, straightening crooked or misaligned teeth, improving the overall bite alignment and treating mild to moderate cases of malocclusion. According to the American Association of Orthodontists, the number of patients treated with clear aligners in the United States has increased significantly in recent years. In 2018, approximately 1.4 million patients in the United States were treated with clear aligners, and this number is likely to grow in the intervening years. The use of aligners in India will continue to grow in the coming years as more patients become aware of the benefits of this treatment option.

As technology continues to improve, Aligners are poised to become even more effective and comfortable. It is highly likely that aligners will be used in the future to treat additional conditions beyond dental alignment issues. Aligners have been considered for the treatment of Sleep Apnoea, helping to reposition the jaw and tongue, which can improve airflow. Also its potential to be used as treatment of snoring by repositioning of the tongue and jaw has been considered in the recent past. Its widespread future usage to treat stress induced bruxism as night guards, TMJ disorders have shown a promising future. Usage of aligners as a reservoir of Saliva for the management of Dry Mouth symptoms is another unexplored avenue. Its modification as a cosmetic appliance to carry the teeth whitening agent, expands its potential with more than a reason of just teeth alignment. With the software already available to monitor remotely and the development of AI to track patient progress will open new vistas of usage of the aligners, thereby allowing the patients to receive treatment from anywhere, without the need to visit a dental office for frequent in-person appointments. This is in sync with Tele-ICU concept working on 'spoke and hub' mechanism.

**DENTALIMPLANTS**

Like aligners, Dental Implants have seen widespread use worldwide and are considered a safe and effective treatment option for tooth loss. According to the International Association for Dental Research, dental implants have a success rate of 95-98% in patients with good oral health, and this success rate has likely contributed to their increasing use. In 2018, approximately 3 million dental implants were placed in

the United States alone, and this number is likely to have grown in the intervening years.

Dental Implants are a popular treatment option for patients who are missing one or more teeth. They are artificial tooth roots that are placed into the jawbone and used to support a replacement tooth or teeth, such as a crown, bridge, or denture, they can improve a person's ability to chew and speak properly. By replacing the root of the missing tooth, it stimulates the bone and arrests further bone loss. It can be potentially used for improving the appearance of a person's smile, which has a positive effect on self-esteem and confidence while also preserving the integrity of the jawbone.

However, its potential for treatment of jawbone due to periodontal (gum) disease or tooth loss is yet to be fully realized. Its role towards stimulating the jawbone and promoting new bone growth, thereby restoring and maintaining the shape, strength and function of the jaw, provides a broader futuristic approach for extensive research. In addition to being used for tooth replacement, dental implants will also find usage in a number of medical applications. One example of this is in the field of Orthopaedic surgery, where dental implants have been used to anchor prosthetic joints such as knees and hips. Dental implants have also been used in the field of craniofacial surgery, where they can be used to anchor prosthesis like eye, ear or finger and also to stabilize facial bones following trauma or surgery. They have also been used in the field of Neurology to anchor brain sensors in place for long-term monitoring of brain activity. It is possible that dental implants of future will be used as a reservoir to carry nerve conductor hormones and other depot medicines. One potential approach for delivering these medications to the bone will be through the use of implantable drug delivery systems, such as dental implants. Dental implants will also find usage to help treat facial neuropathies, to anchor a device, such as a miniature electro-mechanical actuator, that can stimulate the facial muscles and help to restore their function.

## CAD CAM

CAD/CAM (Computer-Aided Design/Computer-Aided Manufacturing) technology is used in a variety of industries, including dentistry, to design and manufacture a wide range of prosthesis. In dentistry, CAD/CAM systems are used to create a digital model of a patient's teeth, which can then be used to design and fabricate a variety of dental prosthesis, including crowns, bridges, and veneers. There are a few potential future uses of CAD/CAM technology in dentistry that are worth noting. With the increasing use of digital technologies in healthcare, it is possible that we will see more personalized treatment options for patients using CAD/CAM technology. For

example, custom-designed dental prosthetics that are tailored to the unique anatomy of each patient could become more widely available. It may be possible to use CAD/CAM technology to conduct virtual consultations with patients, allowing dentists to assess a patient's needs and develop treatment plans remotely. Overall, the future of CAD/CAM technology in dentistry looks bright, and it is likely that we will see continued development and adoption of this technology in the coming years.

Looking to 2023, the future for these modalities coupled with increasing use of CAD/CAM technology, scanning, digital imaging, digital data transfer, digitalised milling using latest materials like Zirconia will usher in a new era where replacement of any part including face will be a reality and this will usher in new horizons unparalleled in the history of mankind.

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