Acta Scientific Dental Sciences
Volume 2 Issue 6 June 2018
Short Communication

Upgradation - The Mantra of Successful Dental Practice

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Received: April 25, 2018; **Published**: May 30, 2018

Abbreviations

CBCT: Cone Beam Computed Tomography; CAD: CAM: Computer Aided Design-Computer Aided Manufacturing; SAF: Self-Adjusting File

Dentistry has witnessed changes from stone age to the barbarian era to today's advanced world of improved technology and automation. Upgradation of not only knowledge and skills but transformation into automated and precise dental practice are the increasing demands of modern society. In today's world of busy life, the patient wants quicker health services in the form of painless treatment, latest technology, and skills. Thus, to meet these never-ending demands of patients, oral health professionals must be aware and include the current trends in the professional practice to improve quality patient care.

With the advent of less invasive diagnostic aids like cone beam computed tomography (CBCT) or spiral CT, diagnosis of dento-facial anatomy and detection of any pathology becomes much safer and accurate [1]. Use of digital radiographic sensors not only reduce the radiation exposure dose but also increases precision and quick reproducibility.

A major leap in dentistry is the transformation of painful dental treatment to painless procedures which relieve the patient's dental anxiety. With advances in dentistry, local anesthetics and anesthetic techniques have improved from manual to a computerized system like Wand [2]. Intra-ligamentary and intraosseous techniques are much painless due to smaller sized needles and pressure less technique.

In Conservative Dentistry, researchers are directed towards the identification of incipient carious lesion with indicator dyes and minimally invasive restorations in the form of air abrasion and micro-abrasion. Concepts are changing from the removal of demineralized dentin to remineralize the dentin using fluoride containing gels and varnishes. Preventive resin restorations, pit and fissure sealants prevent the progression of small lesion to cavitated lesion and eliminate the need of large restorations. Researchers are going towards the invention of caries vaccines and getting some acknowledgment with limited success due to multifactorial etiology of caries.

In Endodontics, use of endomotors with more flexible NiTi rotary files or more conservative SAF (Self adjusting files) files made the root canal preparation easier and fatigue less [3]. Newer irrigation technologies such as, Endoactivator and Endo-Vac system have proved to be superior and a boon over the conventional syringe-needle irrigation system [4]. Advanced thermoplastic obturation techniques allow the operator to fill the root canal space and lateral exits optimally without any void, thus preventing ultimate failure due to apical leakage.

In orthodontics, teeth with good alignment and esthetics is a common demand of every individual. In malocclusion cases, lingual orthodontics help in correction of malpositioned teeth and preserve the esthetics by invisible braces. Similarly, digital smile correction allows the operator and the patient to visualize the future corrected dentition through planned orthodontic treatment. With advances, self-ligature wire has evolved to be more effective compared to traditional technique in terms of duration of treatment and less pressure applied onto the teeth. Recently invisalign technique has introduced to overcome the demerits of traditional techniques, which allows desirable, physiologic pressure less movement of teeth with optimum results [5,6].

CAD - CAM processing in dentistry has changed the face of multivisit prosthesis to single visit prosthesis. It not only allows precise and quicker fabrication of inlays, onlays or crowns but saves both patient and dentist's chair time. Better visualization of teeth in 3 dimensions allows the operator to control contact and contour which help in optimum occlusion. Intraoral scanning of teeth for impression making made convenient and pleasing for patients than in routine impression technique [7].

3D printing has stepped into the world of dentistry a few years back and providing promising results with limited uses in the current scenario. In cases of soft tissue dysplastic or carcinomatous changes, veloscope helps to identify these changes non-invasively and conclusively, deterring the use of more invasive and expensive techniques. Digital slide scanner and slide barcoding system increase the efficiency, reproducibility and avoid human errors during processing.

Replacement of teeth with removable denture has been transformed into fixed dentures with the introduction of implants. Loss of single, multiple or all teeth can now be replaced with single implant or implant supported denture. Newly arrived Computer-guided implant placement technology improves accuracy and precision [8].

Conclusively, incorporation of newer gadgets, technologies and appropriate referral to specialist not only makes dentistry patient-friendly but also more scientific. With increasing competition from fellow colleagues and everlasting demands of patients to receive best in the dental field has always stressed the oral health care provider. Thus, upgrading of the current trends according to changing scenario would be the MANTRA for healthy and successful dental practice.

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