

Hi-Tech Dentistry : The Way to Success

Dr. Charushila S. Sardar

Professor P.G. Guide

Dept. of Prosthetic Dentistry

Dr. D. Y. Patil Dental College & Hospital, Nerul, Navi Mumbai

**Imagine A Dental Office Where You Can Have A Filling Done and Never Feel a Needle or a Drill.
Imagine Getting a Perfectly Crafted Crown in a Single Appointment.**

Twenty years ago we wouldn't have dreamed of using lasers to detect caries, crown in a day, sedation dentistry to eliminate fear, painless injections, detection of dental diseases earlier. But today's Dentistry is about quality of life. Dentistry has recognised the need for comfort-conscious dentistry with beautiful results, and the dental industry is stepping up to create new dental technologies that are making our procedures easier, faster and practically pain-free.

A lot of new technologies have been evolved to improve Dentistry and we have adopted much of it. Some of the most popular examples of new dental technology are outlined below-

Patient Education System

1. The Casey Dental Education System¹: A picture is worth a thousand words. This education system is worth more than that. The need for more and better patient education in the dental field has been well documented. PATTERSON DENTALS CASEY 9DVD is a comprehensive patient education software program that explains diagnosis, procedure, treatment alternatives and postoperative instructions. The clearly narrated presentations feature full-motion video, full-colour graphics, 3D animation in wide screen format.

2. DEPS²: Dental Procedure Education System is a web based resource containing a collection of procedures from dental disciplines it uses rich media and plain language to help patients learn about dental procedures and oral health. It also assists dental students in learning how to communicate effectively with patients.

3. Pro Dental Software 2012³: It has new exciting features which are I-pad compatibility, e-mail movies directly to patients, inform consent procedures, new movies, and more languages.

X-Ray Systems Used for Diagnosis of Dental Diseases

1. Computerised Tomography⁴: Cone beam 3D radiology.

Dental cone beam imaging or 3D imaging is fast becoming a standard care in dentistry with lower radiation exposure and a lower cost. CBCT is a popular choice in the dental community. Dental cone beam imaging offers eye spatial resolution, showing high contrast areas in 3D like cone beam and teeth, making this technology extremely useful for dental implants, TMJ and Orthodontics. Many dental CBCT imaging units on the market today also include panoramic imaging. Features of CBCT machines may include

panoramic and cephalometry reconstruction, varying fields of view (FOV), Dicom export, scan times less than 30 seconds and is of use.

2. Digital X-Rays⁵: X-rays are new but an increasing number of Dentists are switching to digital machines. Digital X-rays have numerous advantages over conventional X-ray films. They are faster, better for the environment and allow a lower X-ray dose to the patients. Digital X-rays are excellent option for compromised patients or others who are exposed to a great deal of radiation and pregnant patients. Digital Dental technology has also contributed to the development of new X-ray equipment including Panorex X-rays for a complete view of patients' mouth and digital tomography for 3D images of teeth.

Systems used for Painless Injection

1. Computerised Injections⁵: Local anaesthetic injections are the most fear inducing part of dental treatment for some patients. It's substantially more comfortable with a computerised pump that makes the injection extremely smooth, precise and gentle. The wand machine is particularly helpful in sensitive areas. It can numb teeth without affecting the surrounding lips and tongue.

2. Vibraject⁶: A new type of injection called Vibraject uses a vibrator clipped onto the syringe to eliminate pain, which also facilitates more precise delivery of anaesthesia. Pain is caused by heat and pressure, so if we can distract patients by giving them something vibrating, they won't feel the pinch of needle.

Systems Used For Patients Comfort

1. Oraverse⁷: Do you hate the lingering numbness that stays with you for hours after you leave the dental office? OraVerse is a new dental technology designed to reverse the effects of local anaesthesia so that numbness wears off in half the time. Designed for professional use, OraVerse is immediately injected by your dentist following treatment. OraVerse is an excellent option for busy professionals who need to return to work after their dental appointments or patients who wish to resume everyday activities faster, such as eating, drinking and speaking.

2. Nuclam⁸: Nucalm is a revolutionary new treatment which has been developed to help patients with dental anxiety or dental phobia. The treatment is a non-invasive method, which relaxes the body and induces a state of calm, which mirrors that of the first stage of sleep. Nucalm treatment involves chewing on tablets (known as GABA tablets), which are designed to counteract the effects

of the release of adrenaline, which often causes a rush of excitement and anxiety. Special micro current stimulation patches are then placed behind each ear; the waves are designed to open the receptors in the brain to the GABA tablets, as well as stimulating a relaxing response from the body. The final stage involves the patient wearing black out glasses and earphones. The treatment uses a special form of listening software, which changes the waves in the brain to induce a state of relaxation; soothing music can also be played through the earphones. Nucalm has been proved to be an effective solution. Many people suffer from anxiety and feel nervous at the mere thought of going to the dentist and some people suffer from such severe anxiety that they avoid going to the dentist full-stop. Nucalm helps to completely relax the body and make going to the dentist a much more pleasurable experience.

Systems used for Detection of Caries

1. Dental Lasers-diagnodent⁸: Laser dentistry is becoming increasingly popular and many dentists are choosing to replace traditional methods with laser technology. Laser technology has a range of benefits, including improved healing, reduced risk of infection, improved accuracy, reduced pain and reduced treatment time. Laser technology can be used to treat a variety of different oral health problems and it is expected to replace many conventional methods in the future. Diagnodent is a new dental instrument, which enables dentists to detect early signs of decay. The device uses laser technology to identify possible warning signs of decay and this means treatment can be given much earlier. If decay is identified early, the tooth can be treated and there is a much lower risk of the decay spreading and the tooth being damaged extensively. Early treatment is also cost-effective because it reduces the risk of the condition becoming more advanced. If the condition gets worse, the patient will require more complex treatment, which could be very expensive. Diagnodent is a safe, non-invasive method, which enables dentists to identify signs of decay very quickly and simply. The procedure is not painful or uncomfortable for patients and can be used as a useful diagnostic tool. In the long-term, using Diagnodent can also be really helpful for patients with dental anxiety or dental phobia and children, as early treatment will help to prevent the need for complex treatment, which may require the use of drills and needles, further down the line.

Systems used for Detection of Cancer

1. VELscope⁸: It's a sad fact that

approximately 35,000 people will be diagnosed with oral cancer this year with a resulting 8,000 deaths. The good news is that early detection of oral cancer can result in an 80-90 percent recovery rate. While oral cancer exams are now an important part of dental checkups, some forms of oral cancer may not be visible to the naked eye. VELscope® is an oral cancer screening device that improves your chances of catching oral cancer early. Completely non-invasive, VELscope is a hand-held tool that casts a blue light, which causes abnormalities to appear darker than healthy tissue. What takes only a couple of minutes can add years to your life. If you don't want to become a statistic, ask your dentist about this important dental technology.

2. Vizilite®: Vizilite is a chemiluminescent light source that can help to identify oral mucosal abnormalities, which may develop in oral cancer. Normal epithelium absorbs vizilite illumination however in abnormal epithelium leukoplakias appear white and red lesions appear darker than the surrounding tissue. Hence visibility of the abnormal regions is improved. It is painless and fast. Vizilite claims "Dental professionals using vizilite in conjunction with a conventional oral screening can be confident that their patients who screen negative for pathology have a less than 1% probability of having frank oral cancer".

Systems used for Dental Treatment

1. Intraoral Camera¹⁰: The advantages of seeing what's happening in the patient's mouth are phenomenal. A tiny camera allows u to see the dental conditions on a television or computer screen. It is not only a great

educational tool but it is also used for diagnosing of various dental problems.

2. CAD/CAM¹⁰: Computer Assisted Design/Computer Assisted Manufacture technologies are used in various industries to provide highly accurate design of items or materials to be constructed. In the dental world this advanced technology allows for the design and fabrication of dental restorations that resemble the look and feel of natural teeth. This type of new dental technology can be used for dental bridges, inlays/on lays, porcelain veneers, and crowns.

3. NTI-tss Device⁹: The NTI-tss Device is used for patients who suffer from TMD and migraine headaches. The device eliminates the need for more invasive surgery and can help with problems associated with Temporomandibular Joint (TMJ) discomforts. The device can be moulded to fit teeth and is effective at reducing the pains associated with TMD.

4. Tekscan Computerised Occlusal Analysis⁹: Bite interference can cause serious long term damage. E.g. tooth fracturing bone loss, mobility etc and can also contribute to TMD which is a disorder of Temporal Mandibular Joint (TMJ).

5. Air Abrasion⁹: Using a high powered spray of aluminium oxide powder. Air Abrasion gently and accurately removes dental decay. It reduces need for high speed drill. Reduces need for local anaesthesia. No vibration or smell. Particularly good for treating teeth in early signs of decay. Completely safe.

6. Dental Lasers¹⁰: The benefit of laser dentistry is that it offers much less invasive alternatives to many procedures. The light

energy that is emitted from lasers results in a shortened and almost painless healing period. Lasers are commonly used for preparation of cavities, to treat periodontal diseases, for root canal therapy.

7. Drills With Electric Motors⁶: until recently Dentists have used air driven high speed drills which whine and vibrate. The new electric drills generate less noise, are faster and efficient than air driven drills, and cut more smoothly and painlessly. SMART DRILLS- the SMART BUR removes only tooth decay, not healthy tooth structure. This device used to access decay that is close to nerve, dentists can remove just the nerve, without damaging the nerve, which can help avoid root canals.

Conclusion

Advancements in new Dental technologies offer better solutions for oral health problems than ever before. Trend in Dentistry is utilizing technology to make Dentistry more comfortable, efficient and natural looking for the patient. New dental technology is improving safety, efficiency, aesthetics and comfort of the patient and dentist.

High Tech Dentistry is the right way to go high in dentistry ...

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No Tobacco Day (31ST May 2013)

Posters for creating Awareness against tobacco use were put up across the city. The activity was supported & acknowledged by Mayor, Collector, Municipal Commissioner and various other eminent personalities of

Amravati City.

The activity was carried out in presence of Dr. Mrs. Gondhalekar (President IDA, Amravati), Dr. Nikhil Jain (Vice President 2nd, IDA HO), Dr Amol Rathi (Hon. Secretary, IDA, Amravati), Dr. Smita Hantodkar

(Editor, Oral Wisdom, IDA, Amravati), Dr. Gondhalekar, Dr. Sunil Agarwal, Dr. Anand Tripathi, Dr. Prachi Atram, Dr. Aditya Markandey & other IDA members.

