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Managing Patient Flow in a High Tech Dental Office

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There are two types of techno goodies dentists buy. First those that are needed, practical, useful and cost effective tools. The second type are fun, wow, amazing techno toys. Techno toys are bought not because you need them but because you want them. Many dentists have shelves full of wow toys they "had to have" but never managed to use effectively. Its OK to buy techno toys as long as you realize that's what you are doing. On the other hand if you want to use technology tools effectively and profit from your technology investments the dentist will have to buy with care and put some effort into setting up and using new technology systems to manage patient flow in the office.

One area of new technology development in which the distinction between toys and tools is uncertain is the area of digital image management and cosmetic imaging. Starting with the intra oral cameras introduced over ten years ago we have seen a steady advancement of high tech tools for the esthetic and restorative practice. These include, intra oral cameras, digital capture of intra oral camera images, digital radiography, digital still cameras, image management software and cosmetic imaging software. The developing technology in these areas is so remarkable it is easy to get caught up in the excitement of it and to buy technology just because it is so amazing without consideration for how to make it work profitably in the practice. There are several levels to the development of a high tech practice and offices which profit from high tech follow a logical sequence in the purchase and application of technology.

Dentists are attracted to the visually exciting technology and often want to jump into advanced image systems with out first developing the more boring technology infrastructure. However few offices will see a true return on their technology investments if they don't lay the proper groundwork. Steven Covey declared that the third habit of highly effective people was to "Put First Things First". If you want to profit from high tech you will need to follow that advice.

Management Software: The first step is to set up a good, windows based, networked, practice management system. The second step is to move the computers into the treatment rooms and start doing chairside data entry, electronic charting and chairside scheduling. When many people first hear about using computers in the treatment rooms they are skeptical. It doesn't seem right, and they come up with lots of excuses as to why they can't do it, they'd be in the way, I'd never use them, I don't have enough room, my staff won't like it, and it is too expensive. However the fact is that once the computers enter the treatment rooms everything else changes. It also opens the way for adding on all the wonderful high tech goodies and making them work profitably in the office. Conversely trying to add on and use techno goodies like image management and cosmetic imaging with out chairside computers is harder more expensive and it is difficult to truly realize the potential of your technology investment. Good examples of windows based complete practice management softwares are Dentrix, EagleSoft and Practice Works.

Cameras: The single best technology investment a dentist can make is an intraoral camera. It is certainly possible to buy and use a camera with out treatment room computers. However we are rapidly moving from an analog video



world to a digital world. What that means is that it is no longer necessary to use a video printer to freeze display and record intra oral images. It is no longer necessary to have big TV monitors in every room with a hard wired network. Using the computer to capture store retrieve and manipulate images is much more flexible than old printer based systems. Once there is a computer network with computers in every room the computer network becomes the video network. The computer becomes the printer (that is it freezes images) and the computer monitor takes the place of the TV. Putting a computer in every room just to capture an intraoral image doesn't make much sense. However adding image capture to an existing system is easy and cost effective.

The next logical step is to add image management. That means software which captures stores and retrieves images.

These can be captured camera images, images from a digital camera or scanned and digitized images. Image management systems create a kind of photo album of images which are linked to an electronic patient chart. Advanced systems will also allow you to display various images for before and after comparisons. They also make it easy to arrange and print images and the newest systems provide for easy transmission of images via e-mail and the internet. Tigerview is a good example of an image management system.

The next high tech tool to consider is a [digital camera](#). Digital cameras range in price from under a hundred dollars to several thousand. To be useful in the dental office the camera must take a close up of the mouth only and a three quarter to full face shot with out distortion or wash out from the flash. You also need a fast method to transfer images from the camera to the computer. The best way is with a flash memory card or a floppy disk. Good models to use are the Olympus 2500, the Sony Mavica 95 or the Kodak 290.

Cosmetic Imaging: You are now ready to add cosmetic imaging. This is software which allows you to manipulate the picture of a smile to simulate the results of cosmetic treatment. Cosmetic imaging hit dentistry a few years ago and then after a brief period of interest it seemed to die out. It died out because it was hard to do, took a lot of time and was expensive to buy and set up. Cosmetic imaging is now making a big come back. It is coming back because new software systems have tools which make cosmetic manipulation fast and easy. It is also now much more cost effective to add imaging to an existing computer network. It should not be a stand alone system but part of your overall technology system. The two leading image management and cosmetic imaging software systems are Image FX and Vipersoft. If you use one of these imaging programs you will not need separate image management software.

Patient Education: Digital interactive patient education is the next high tech tool to add to the technology infra structure. Again adding computers in every room just to show patient ed is silly but adding it to an existing network makes a lot of sense.

Digital patient education programs will present full motion video with sound. They can be used for almost any procedure and can be modified to fit the needs of the office.

There are three advantages to using a patient education program:

- It takes the task of endlessly repeating the same thing day after day and frees the dentist and staff to do other things.
- It also gives a very professional and consistent third party message to patients about the need for treatment. This, along with the engaging video will likely increase patient acceptance.
- And finally it provides for accurate and documented informed consent.

The leading programs in this area are Caesy and ADH with Joan Lunden

Digital Radiography: The final piece of the puzzle is digital radiography. It could actually be added before all the camera and imaging is put in place. Again it is remarkable technology which promises to completely change how we take and analyze radiographs. Again, "First Things First" or "don't put the cart before the horse." It is possible to use

digital radiology with a cart system rolled from treatment room to treatment room or worse yet to use a laptop but it isn't a very effective way to do it. The end result is a system about as useful as a cart with a rear mounted horse.

After all where do you most need a radiograph? It is in the treatment room. If you don't have networked computers in all the rooms it is awkward or impossible to bring the x-ray image into the room. Also if the images are not linked to an electronic chart in a management system it is awkward and time consuming to find and retrieve images. As a rule of thumb if you don't have electronic paperless charts you aren't yet ready for electronic paperless digital radiographs. On the other hand adding digital radiography to an existing treatment room based computer network is easy and less expensive than trying to set up a stand alone system.

Training: Once you have established a technology infrastructure and added the programs you need the next key is learning to do it right. It is amazing how many dentists will spend tens of thousands of dollars on technology and then never spend a penny on learning to use it properly. Training is not an option. For example you could buy the world's best chair, unit and handpiece but it wouldn't make you a great dentist. You would only be a great dentist after you had studied, practiced and mastered the skills of fine dentistry. The dental handpiece only has value in the hands of a master. Technology is the same way, it only has value in the hands of a master.

In order to profit from technology the dentist needs to actually use what he/she buys. Technology tends not to get used if; it is too hard to use, it takes too much time, the dentist or staff doesn't understand it or don't have training, it is not in the room when needed, it is not positioned for easy use or the staff doesn't see the value.

To overcome all of these problems the dentist must make a commitment to use any new technology. He/she needs to encourage the team to become involved and set goals for using the new techno-whatever. Also be flexible with where it is positioned and be willing to make changes. Be careful not to fall into old ruts and just "get by" doing what you always did and let the techno goodie sit on the shelf.

Be prepared for it to take too much time and be awkward the first (and probably the second and third) time you use it, but don't give up, just get better. Establish protocols and time schedules for the use of technology. For example You may wish to set a protocol that all new patients will have a digital picture taken and a cosmetic smile design presented at the consultation appointment. Or you may set a protocol that all patients who have whitening or anterior bonding will have a before and after image in their digital chart.

Case Presentations: Another way to use these tools is to prepare customized case presentations. These can be word processing documents, which include copies of the patient's own photos and x-rays as well as enhanced cosmetic images. These are combined with text specific to that patient describing the need for and benefits of treatment. For major cases involving elective treatment these will help the patients understand and accept proper care. In other words the high tech tools will increase case acceptance and ultimately profit to the office.

Specialists can do the same thing creating beautiful case reports with photos and x-rays, which look like magazine ads, for referring doctors. Once the protocols and templates are established the dentist and staff can prepare these incredible documents in less time than we used to spend writing up a treatment plan or case report by hand.

Budget: The final step to profiting from high tech tools is to establish a technology budget. Be prepared to spend money every year on improving your technology infrastructure and on the training and development of the staff. A recent wall street journal article indicated that the average health care company (including hospitals) spent 2% of gross annually on technology. By comparison the average business overall spent 10% on technology. Look at your situation and establish a budget of at least 2% and if you want to aggressively build a high tech office you may want to budget 5% or more.

Planning with a budget is important for several reasons. The most significant is psychological. That is you have already planned to spend the money and are therefore less likely to put off important items, such as training, because of cost. The second thing a budget does is help you focus on what to buy. You will be less likely to purchase toys and more likely to purchase tools to stay within your budget.

Developing a high tech practice and managing patient flow is an ongoing process. Be careful to avoid toys and concentrate on tools. Establish a technology infrastructure first, which will support advancements in technology. Add on new technologies in a logical sequence, first things first. Get training and provide ongoing advanced training for both the dentist and the team. Establish goals and use new technologies on a daily basis. And finally set up and follow a budget. **"THE FUTURE IS COMING AND IT WILL BE AMAZING"**