

High-tech, high-touch: How to keep both in balance

To build a high-tech, high-touch practice, identify and apply fast, cost-effective technology to free staff for more personal patient interaction.

By Dr. Larry Emmott



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More than 20 years ago, John Naisbitt coined the phrase, “high-tech/high-touch” for his best-selling book, *Mega-trends: 10 New Directions Transforming Our Lives* (Warner Books, 1982). Naisbitt noted that people like high-tech—that is, they like the excitement of high-tech—the change, the novelty. They like its speed and the rapid access to information that it provides and its new and innovative ways of doing things.

On the other hand, Naisbitt said people don’t like being turned into a number or digitized. If they feel that technology is taking over—that the machine is more important than they are—then people reject technology and there is then a high-tech backlash.

The challenge, according to Naisbitt, is to provide the high-tech innovation people want (and businesses need), and, at the same time, provide the personal high-touch relationships people demand.

Dentistry, in my opinion, is a perfect example of a high-tech/high-touch profession. Dental patients really want their dentists to be up-to-date and use the latest and best methods. They are impressed with high-tech gadgets such as curing lights and intraoral cameras. They want, and even expect, their dentists to be state-of-the-art, cutting edge, and techno-perfect.

Yet at the same time, what most patients want even more is a personal one-on-one relationship with their dentist. They want to be recognized and appreciated as an individual human being. They crave high-touch.

So how do you balance high-tech and high-touch? You have to ask yourself some fundamental questions about what computers do well and what people do grudgingly, such as entering the same patient’s data over and over again or going manually through patient files looking for data on patients who need to be recalled. The steps you take as you debate what technology to add while still keeping a personal touch are summed up in the sidebar (below), “Do I really need this high-tech gizmo?”, and are examined in greater detail in this article.

‘Do I really need this high-tech gizmo?’

It’s appropriate to begin a discussion of computers in dentistry not with computer systems but with human systems. Technology for its own sake has no value; it only has value when it enhances a human system or, better yet, solves a human problem. There are so many wonderful and amazing high-tech products available for dentistry that it is easy to be overwhelmed and overlook the human factor. Therefore, it is appropriate for dentists to ask two fundamental questions when they consider technology purchases, namely:

- “Do I really need this high-tech gizmo?”
- “Can I justify its cost?”

To answer these questions, consider these four steps:

1. Identify what computers do well.
2. Identify what time-consuming human (manual) systems and problems you’d like to change.
3. Apply technology to solve the problems inherent in these human systems. (See the sidebar, “Enhancing four office tasks with technology,” page 52.)

And perhaps, a fourth step is to:

4. Improve the human touch. Always keep in mind that people come first. If a machine is used to solve people problems, then people will embrace the technology. If a machine is seen as more important than people are, however, the people will reject the technology.



1. What computers do well

The essence of a high-tech revolution is the ability to digitize information. In the dental office, digital information can be words, numbers, charts, pictures, x-rays, photographs, sounds, or even movies. Once information or data is digitized, it can be stored, transmitted, and modified using a computer.

What does this mean in the real world? It means the computer can do the following three essential tasks well:

Store and transmit information. The ability of a computer to do this means that critical data is entered one time, and then the computer will copy and transmit the information to all the other places it is needed.

This means data entered in the treatment room is available instantly and automatically at the front desk. It also is available for transmission outside of the office to finance companies, labs, suppliers, and third parties. Bill Gates calls this interconnection of all types of businesses to each other, “the digital nervous system.”¹

Follow instructions. Once a computer is given a task, it will do that task over and over again; it will do the task very accurately and quickly, and it will never get tired of doing it.

For example, you can instruct an assistant to always write the name, date, and tooth number on an x-ray (a human system), and the assistant will do it most of the time. But, occasionally, the assistant forgets or puts the wrong information down. Also, the assistant gets tired of doing the same repetitive task day after day.

Once the computer is instructed to attach the same data to an x-ray, though, it will do it instantly and automatically every time an x-ray is taken. This process is called *single entry*.

Gather and collate all digital information. This means you can relate any piece of data to any other piece of data, and you can do this very quickly, with virtually no human time involved.

For example, you could search your files to find out how many crowns you diagnosed last year that weren’t completed. To do this by hand (a human system), an assistant would need to pull every chart, check the treatment plan, compare that to the completed procedures in the ledger, check the appointment book to see if the patient is scheduled for the procedure, and then make a list.

If it takes three minutes a chart to pull, check, and re-file it, and the office has

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Enhancing four office tasks with high-tech systems

By Dr. Larry Emmott

Technology for its own sake is foolish. Technology only has value when it enhances a human system. Following are four human office systems or tasks along with a technology solution and a cost-savings estimate for each.

1 Patient charting

Documenting a single procedure in the dental office can take as many as 20 steps. The process includes filling out information for charting, scheduling, insurance forms, lab slips, progress notes, treatment plans, billing, and more. The human system is to write each of these entries over and over again, every time the entry is needed.

Technology solution: single-entry process. Using a good practice-management system with treatment-room computers, you enter the treatment one time, a process known as "single entry." Then, the treatment data will follow the "digital nervous system" and be copied to the 20 or so places where it is needed.

Savings: Single entry can save a dental practice as much as \$21,000 a year. If you make 15 entries per patient and see 15 patients a day (both dentist and hygienist combined), that's 225 entries a day.

If each entry takes two minutes on average, the total time each day is seven and a-half hours. At \$15 an hour, for 190 days a year, the savings is \$21,375 a year.

2 Photographs

Photographs are a powerful tool. They can be used for diagnosis, treatment planning, lab communications, case presentation, documentation, and marketing.

The old human system uses a film camera to take photos. The film is then taken to a processor, who creates slides or prints. If copies are needed, they can be ordered from the processor. The photos then are returned to the office, where they are filed in the patient's chart. The process takes from hours to days, and it requires time out of the office.

Technology solution: digital cameras. With a digital camera, a digital image is available instantly in the office. The image can be copied and printed, and it is stored automatically as part of the patient's digital record.

Savings: The cost of a good digital camera is similar to the cost of a good film

camera. However, with a film camera, you will need to pay for film, processing, and prints, plus an hour or so of staff time. As a result, each roll of film will cost about \$60—that is, film, \$9; prints and processing, \$36; and staff time, \$15.

3 Banking

Paying bills and tracking expenses is an essential activity in any business. The human system is to write checks, fill out a check register—adding and subtracting as needed. Then, at month's end, you send everything to an accountant for analysis.

The accountant will categorize expenses, determine profits, and generate reports. This usually takes a couple of weeks, so that once a month, two weeks after the month has closed, you can analyze your expenses and profits.

Technology solution: banking/check-book software. Business software programs can create checks, keep the register, track and categorize expenses, figure payroll, and then generate reports.³ The reports, which include everything the accountant was producing (and much more, if you wish), can be created at any time and will be ready in minutes.

Savings: A good checkbook program will cost less than \$300. Monthly accounting reports will cost at least \$300, and payroll could be another \$200 a month. The total savings each year could be \$6,000.

4 Reactivating patients

The problem with reactivating patients is gathering data on patients who haven't been into the office for more than one year, or who have failed to follow through on previously diagnosed treatment. The human system is to conduct a chart survey, which involves pulling all the paper charts, reviewing when the patient was last seen or what treatment was diagnosed, and creating a call list.

Technology solution: data-mining software. With a computer management program that tracks treatment and appointments, it is easy to create a report listing all of the patients you need to contact. The report will be ready in minutes.

Savings: If an assistant reviews 2,500 charts at three minutes each, and is paid \$15 an hour, the chart survey will cost \$1,875, and it will take more than three weeks to conduct.

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2,500 charts, then the entire process will take more than three weeks and cost more than \$1,800 in salary alone. To do the same task—find the number of uncompleted crowns—with a computer will take minutes and cost virtually nothing. The computer process is called *data mining*.²

2. Time-consuming human systems: documentation

The most common human system in the dental office is the documentation process that follows the diagnosis and treatment of a tooth. Once a dentist diagnoses a dental condition and proposes a treatment, a series of steps is begun to properly docu-

ment and communicate the procedure. These same steps are required whether or not the dental office is using a computer.

The documentation process almost always happens this way:

The first visit. The dentist, dental patient, and dental assistant are all sitting in the treatment room. The dentist peers into the

patient's mouth and says something like, "Tooth number three needs a crown."

The assistant then makes a mark on the patient's tooth chart, usually in red, outlining or highlighting tooth number three in some way.

This triggers a cascade of entries, including a treatment plan, a consent form, an appointment, an appointment card, an estimate, and a pre-determination.

The return visit. When the patient returns for treatment, another whole series of documentation and communication steps begins. These include entries in the daily schedule, chart notes, a lab slip, chart update, ledger, receipt, day sheet, and insurance claim.

The seat appointment. But we aren't done yet! The patient will need to return for the seat appointment, which requires another whole set of documentation steps.

Payment. The final step is payment. This could include payment entries to the ledger and monthly billing statements.

If you go back and add up all the entries, there are as many as 20 times that the dentist or dental staff must write, "tooth number three crown." And this phrase is usually written along with much more general information, such as the patient's name, Social Security number, insurance codes, fees, and on and on. And these 20 entries represent one procedure on one patient.

If you start adding up all of the steps necessary to document all of your patients and every procedure, the paperwork burden is staggering. If that isn't frightening enough, keep in mind that every time an entry is made, there is a chance to make an error.

3. Applying technology: single entry, data mining

The single-entry feature in a practice management software program can solve this time-consuming documentation process. The single-entry process means that once a staff member makes the first entry at diagnosis, the data will travel instantly and automatically to some other 20 places where it is needed. Using the "digital nervous system," the information can go from the treatment room to the front desk for scheduling and payment; from there, it can be transmitted outside of the office to an insurance company or laboratory.

Single-entry benefits. The single-entry feature of a computer system has a profound effect on the human systems in a dental office.

Here are some benefits of single entry:

- It frees the staff to do other things, such as care directly for the patient.
- It speeds up the communication process, saves time, and reduces errors.
- It reduces stress on the job and makes dental staff jobs more meaningful and human directed.
- Since every procedure is entered and tracked from the moment of diagnosis to the moment of payment, a single-entry system gathers all kinds of digital infor-

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mation as a byproduct of doing business. This data can then be mined in any number of ways. The most obvious use of this information is for the tasks we have always checked, like gross production and collections, past due accounts, and insurance tracking.

Data-mining benefits. However, with a computer system, you can monitor virtually any data you collect. With this data, you can answer questions such as:

- What is the average amount you diagnose?
- Which procedures do you perform most often?

- How much of the work that you diagnose is accepted?
- How much time do you spend on certain procedures?
- Which insurance companies pay the fastest?
- Which local employers do most of your patients work for?

You can even combine the data with word processing or e-mail to produce marketing letters. (For more about data mining, see my article, "How to turn reports into revenues" in DPR's October 2002 issue.²)

4. Applying the human touch

There are many human systems in the dental office. These include scheduling, patient financing, supply ordering, lab tracking, marketing, banking, payroll, and many others. Understanding what computers do well will allow you to apply technology to enhance these human systems so that you can do these tasks faster, easier, and less expensively.

Computer technology in the dental office must never interfere with one-on-one human relationships. In fact, if it is used well, technology will improve the human touch. That is the essence of high-tech/high touch. In the future, this will be even more important, for the future is coming and it will be amazing! **DPR**

Dr. Larry Emmott, a recognized authority on dental technology in America, is a practicing general dentist in Phoenix. He also is an award-winning professional speaker, a featured instructor at the Las Vegas Institute, and a member of the American Academy of Dental Practice Administration. He has written hundreds of articles on dentistry, computer use, and management. Since 1995, he also has written a monthly electronic newsletter, Emmott on Technology, showing dentists how to use technology effectively. Dr. Emmott offers regular hands-on programs to selected dentists in his Phoenix office: the next seminar is scheduled for Oct. 3-4. At these seminars, you will receive personalized advice on setting up your office to maximize your high-tech future. To find out more, check Dr. Emmott's Web site: www.drlarryemmott.com, or telephone him at: 602-279-1641.

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