

ON THE ROAD WITH Dr. Larry Emmott

Dr. Larry Emmott, DPR's technology columnist and a well-known dental-technology speaker and consultant, is often on the road talking with dentists from all over North America about developing high-tech dental offices. "Although every office is unique, some common problems keep popping up," he said. Here's a look at some of his answers to the questions he gets about high-tech concerns. Topics include hardware and software, Web sites, digital radiography, and digital photography.



Q: I want to develop a **high-tech dental office**. Where do I start?

Emmott: It's a five-step process, starting with software and operator computers. See my summary in the sidebar, "The road to a highly effective high-tech dental office," on the facing page).

Q: How do you find the time to use **computers in the treatment room**?

Emmott: Many people working chairside in a busy office don't have time to do everything they should now, so they can't even imagine how they will have the time to do even more work if a computer is placed in their treatment room.

The answer is really simple. Using a computer doesn't add work. It just shifts work from paper to electrons. And the computer makes almost everything we do go faster. For example, writing chart notes after a crown prep using a paper chart and a pen takes three to five minutes. Using a computer to do the same process will take about 30 seconds.

Multiply this timesaving process over everything we do—charting, scheduling, billing, insurance, correspondence, re-call, and all the rest—and the reality is this. You will have more time, much more time, once you learn to use a computer throughout the office.

Q: Can I use a **wireless network in the office**?

Emmott: Yes, but there are some significant problems with wireless networks. They can be erratic with dead spots and limited range. The data transfer rate of wireless can be a problem for certain applications. Finally, strict security features need to be in place to prevent unauthorized access.

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Building a high-tech office: A 10-article series

How do you build a high-tech office? To find out, we asked Dr. Larry Emmott, DPR's technology editor, to present a 10-article series (see below), to guide you through the complex process of choosing and using high-tech systems, from software to digital cameras. This issue takes a look at questions he often gets about the process.

- **Management software:** charting (February), scheduling (March), and finances (April)
- **Hardware in the operatory** (May)
- **Digital photography** (June)
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The road to an effective high-tech office

“Begin with the end in mind.” This is the advice Stephen R. Covey, author of *The 7 Habits of Highly Effective People*, and *First Things First*, gives to those embarking on major projects. In other words, when building your dream high-tech dental office know where you're going before you start. Your ideal, future office starts not with technology but with a vision.

Once you know where you're going, take these five steps:

1. Establish a technology infrastructure

Establishing an infrastructure is a two-step process:

- The first step is to install and use complete, integrated practice management software.
- The second is to establish a network with treatment-room-based computers. In other words, install computers in the operatory.

2. Consider the “Big Two”

Once the infrastructure is in place, the next step would be to consider what might be thought of as the “Big Two”:

- Digital images
- Digital radiography.

These two technologies have been available for many years, are fairly mature in their development, and are essential if a dentist wants to use a truly paperless, digital patient record.

3. Remember: Non-dental programs are useful

There are many programs developed for general business use that have great value in the dental office. The most obvious of these is word processing. Other examples of non-dental software are programs for checkbook accounting, time-clock reporting, slide shows, remote access, virus protection, and data backup.

4. Add advanced dental applications

There are an amazing number of advanced applications for dentistry that one can add to a basic system once it is in place. They range from interactive, digital patient-education programs to computerized probes, diagnostic software, blood-pressure monitors, and jaw-tracking devices. Advanced applications also include databases with drug-information programs that replace old-fashioned paper programs, such as the paper *Physicians' Desk Reference* (PDR).

5. Keep the future in focus; be flexible

If there's one fundamental truth about technology, it's this: It's going to change. For this reason, it's best to plan to be flexible. Don't get locked into one solution. Plan for change with modular systems and accessible wiring channels.

One change looming on the high-tech horizon is the Internet. It's not essential for a dental office to be using the Net now, but we will see it being used in creative ways to benefit dentistry in the next few years.

Q: What are the most common mistake dentists make when using technology?

Emmott: They don't get enough training. The world's best technology will have no value if it isn't used. The most common mistake I see dentists making is this: They buy a new technology system, but they never learn how to use it. Or, they never make a plan to implement the new technology.

Q: Should I have an office Web site?

Emmott: Yes, if the Web site is part of a marketing plan that reflects the image of the practice and supports current patients. Many offices jump on the Web bandwagon with little or no thought as to why they want a Web site or what the site should do.

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A Web site can be a great asset if it's well designed, heavily promoted, and used as part of a complete marketing plan. However, an office Web site alone won't make you a high-tech office. The systems in the office—management software, computers in the treatment rooms, digital images, and all the rest—come first.

Q: Which **digital radiography** system should I buy, corded or wireless?

Emmott: Recent improvements in technology have made this question even more complicated than previously. One way to answer it is to think in terms of indirect and direct sensor technology.

- *Indirect (phosphor plates/scanners).*

Traditionally, so-called wireless systems have used a phosphor-coated plate (PSP) and a scanner to acquire a digital radiographic image. Rather than wireless, a better name for these systems would be indirect.



- *Direct (chip-based sensors/cord or cordless).*

Cordless systems use a solid-state sensor with a silicon chip and a direct connection to the computer. A few systems connect to the computer not with a cord but through the use of a radio signal. These are truly wireless, but they aren't what have traditionally been called wireless. A better name for the chip-based sensors, whether they use a cord or not, would be direct.

Q: How much will it cost to set up **digital radiography**?

Emmott: A basic PSP system will cost about \$20,000 to get started (scanner, sensors, and software). A basic direct system will cost about \$12,000 (sensor, capture port, and software). Both systems also will require a computer.

Q: When are radiography-sensor prices going to drop?

Emmott: Sensor prices have been trending higher not lower. Companies attempting to enter the market with a low-priced sensor have failed. If you are waiting for the price to come down before buying, it could be a very long wait.

Q: How many sensors should I get?

Emmott: The vast majority of dental offices can think small when it comes to sensors. A sensor is easy to move from room to room and, in a typical office, usually only one patient gets an x-ray at a time. And, if you need more sensors, don't worry. They always will sell you more.

Q: Should I buy the sensor warranty?

Emmott: Yes. Sensors are a complex, sensitive, and expensive technology that can fail. However, warranties vary significantly, and examining the warranty can tell you a lot about sensor reliability.

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Q: Which digital camera should I get?

Emmott: The best answer is what **not** to get. Don't buy an off-the-shelf consumer camera in an electronics store. You'll do much better going to one of many companies that sell dental camera systems. If you

want simplicity, ease of use, and low price, get a point-and-shoot camera modified for dental use. If you want better quality and versatility, get a digital single-lens reflex (SLR) camera adapted for dentistry. (For more details, go to dentalproducts.net and type "digital camera kits" in the search field. Then click on "Clinical.")

Q: How many megapixels should I get?

Emmott: Get a mid-range digital camera capable of 4-to-7 megapixels. For most dental office uses, you actually will turn down the camera's resolution to 1 or 2 megapixels.

Q: What's the difference between integration and bridging?

Emmott: In daily use, integration and bridging appear similar. The way it works in a computer, though, is quite different:

- *Integration.* True integrated applications share a common database, and making a change in one aspect of an application will automatically be reflected in all related areas. For example, marking a treatment to be done automatically adds it to the chart, treatment plan, cost estimate, and insurance pre-determination.
- *Bridging.* A bridge is a link between two separate applications that transfers selected data from one program to another. Usually, a bridge will open a selected program and transfer data, such as a patient's name, to a new patient file, or it will open an existing patient file and transfer data to it.

Q: Do I have to have integration or a bridge to use different software applications?

Emmott: No. A bridge is convenient and saves time. However, it is not required. Integration is not required either.

Q: Can I use a laptop in the treatment room to save space and money?

Emmott: No. A laptop seems like an elegant solution; in actual practice, it offers less functionality at a much higher price.

Q: Can I use my TV to show computer output?

Emmott: Yes, but don't do it. It's possible to show digital-computer images on a TV. However, this requires a converter, and there is always a significant loss of quality. Almost always, you will save time, money, and get a better result if you just go digital. Anything you have done with a TV in the past, you can now do with a computer, and you can do it better.

Q: What's coming in the future?

Emmott: I'm not sure of the specifics, but I am sure the future is coming and it will be amazing! **DPR**

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Dr. Larry Emmott, a recognized authority on dental technology in America, is a practicing general dentist in Phoenix. He also is a 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. He also writes a monthly electronic newsletter, "Emmott on Technology." Dr. Emmott also offers hands-on technology seminars in the Phoenix area. For more information, call Dr. Emmott at 602-279-1641 or visit www.drLarryEmmott.com