

# Profitable and Effective Use of Dental Technology

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At the Marietta Center for Cosmetic and Restorative Dentistry, our dental team uses technology to maximize patient care and communication with our patients. This article discusses how our practice has taken a paperless approach by incorporating technology into our daily routine and some of the benefits we have realized as a result.

## Efficiency in the Practice

All of the dental hygienists in the practice were admitted skeptics when first introduced to the idea of computers in the hygiene operator. However, as dentistry continues to evolve, many of us will not consider practicing without a computer in each operator. And the dental hygienists on our team have found that computers make them more productive and effective.

In an analysis of their usefulness in our practice, let's look at scheduling, communication within the office, and recall exams in the hygiene room.

## Scheduling

In our office, patients are scheduled from the operator, except for incoming phone calls, which are handled by the front office staff. It just makes sense—who knows better than the dental hygienists how much time to schedule for each patient? Some have periodontal needs and require additional time, and others require early or late appointments to accommodate their schedules.

Operator prescheduling takes about 1 minute to do, even if you maintain your paper method of having the patient address his or her own recall card and the hygienist writes an appointment card. This also creates a better patient experience. There is no longer a delay while waiting for the receptionist to set up the next appointment if the patient leaves the hygiene room and is escorted to the front desk and the receptionist is on the phone. It's already done.

Recall lists, overdue lists, and short-call lists are only a few mouse clicks away—phone numbers, treatment history, and notes about concerns from previous visits are all easily available to help motivate patients to schedule appointments.

Some systems even dial the patients' phone numbers. For example, if a 10:00 A.M. appointment has not arrived by 10:15 A.M., the hygienist chooses the patient's appointment on the schedule, clicks

autodial, and picks up the phone. The hygienist speaks to the patient, who apologizes and reschedules. Then the hygienist drags and drops the appointment to the new time, and documents the missed appointment in the patient's note history. Throughout this process, the hygienist never stops to pull a paper chart, wait for the appointment book, or erase and rewrite the appointment.

## Office Communication

Computer technology also allows the dental hygienist to post the services performed each day. This information becomes available at the front desk via networked computer software for insurance processing and payment calculation before the patient even gets out of the chair. Some practices even collect money in the operator.

Treatment plans can be communicated from the operator to the front desk in the same way. For example, if the dentist and dental hygienist recommend soft-tissue management therapy to a patient, they can enter a phased treatment plan from the operator using a graphical chart (Figure 1). The treatment coordinator then pulls up the treatment plan at the front desk, prints it out by phase, and discusses financial arrangements with the patient. Note that for most treatment plans, this can happen during the same appointment.

Even if a more comprehensive plan is developed that requires a follow-up visit, it only takes a minute to print out a plan previously charted in the computer. This eliminates the stacks of charts waiting for treatment plans to be typed and printed in preparation for presentation.

## Recall Exams

The benefits in computerizing the recall exam are numerous. The computerized exam folder includes a template of standardized questions (ask the same questions every time and nothing is forgotten). The templates can be customized to include the practice's examination criteria; the electronic chart offers ready access to tooth and periodontal charting and progress notes.

In a paperless office you can use autonotes—prewritten note templates of commonly performed procedures that can be customized for each patient. With a few clicks and a minimal amount of typing, the electronic chart can be written up and is instantly accessible throughout the office while other staff



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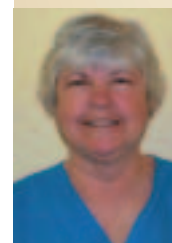
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members assist patients with their needs.

Color graph comparisons of previous visits—including probing measurements, numbers of bleeding and suppuration points, gingival margin, furcation grades, and mobility—illustrate condi-

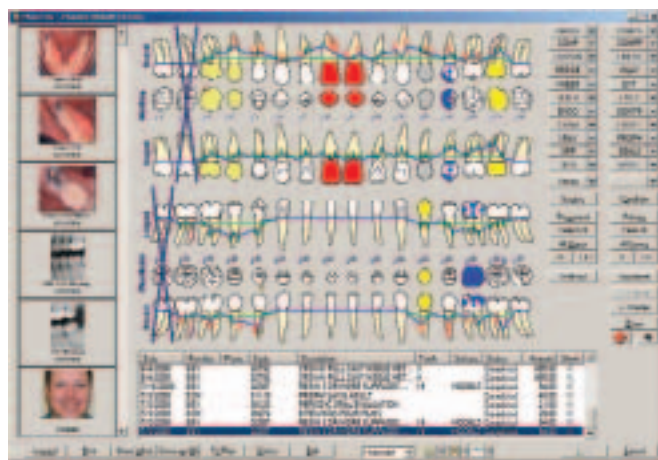


Figure 1—EagleSoft tooth chart.

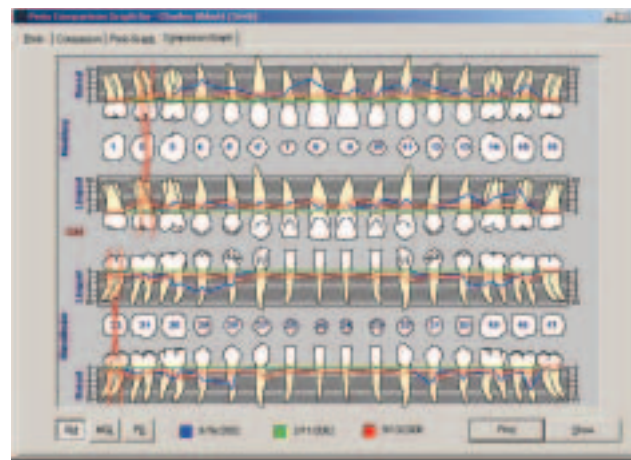


Figure 2—EagleSoft periodontal chart.



Figure 3—Digital x-ray.



Figure 4—Schick CDR® Digital X-ray System (Schick Technologies, Inc, Long Island City, NY; [www.schicktech.com](http://www.schicktech.com)).

tions worsening without treatment or improving with treatment (Figure 2). These graphs can be printed and given to the patient. The dental hygienists in our office use these graphs in their presentations to involve the patient in the treatment planning process and gain their understanding of the need for periodontal therapy.

## Patients Remember What They See

A recent University of Minnesota study showed the use of visual aids in a presentation increased the likelihood of a successful outcome by 43%.<sup>1</sup> The study also reported that participants were willing to pay 26% more for the same procedures after visual aids were incorporated into the presentation about the product.<sup>1</sup> A similar study conducted at the Wharton School of Business, University of Pennsylvania, found that visual aids reduced the time required to explain complex procedures by 25% to 40%.<sup>1</sup>

Most patients see the dental hygienist more often than the dentist, making the hygiene operatory one of the most important rooms in the practice. Yet, in most offices the hygiene operatories are small and equipped with older equipment. All

offices acknowledge the importance of the waiting room to a patient's first impression; in most offices, the patient's visit to the hygiene room is their first experience in the clinical side of the office.

Think of your last visit to your physician's office. As the patient, you sat in the exam room and took in everything—was it dirty, cluttered, or up-to-date? Patients view the hygiene operatory differently than the dentist's treatment operatory, which they consider to be more like a hospital operating room. The draped and anesthetized patient doesn't usually remember his or her surroundings, but the patient who is fully alert throughout examination and treatment will process every visual detail of the environment.

The hygiene room should impress the patient. The technology and dental equipment should be state-of-the-art and the room should be well organized and immaculate.

Patients equate technology with clinical skills, and not just the dentist's skills. The dental hygienist's skill level also goes up in the patient's eyes when technology is an integral part of treatment. This creates credibility, builds trust, and patients can tell that you are invested in what you do. Ultimately, all of this leads to

improved patient treatment acceptance. Technology has improved and will continue to improve the quality of care our patients receive.

## Intraoral Cameras

The dental hygienists in our office have found that the intraoral camera has made a dramatic difference in patient education and treatment acceptance. They use it to show suspicious areas to the patient before the dentist's hygiene check. The image is left on the screen and during the examination, the dentist and hygienist discuss their concerns in front of the patient. Even if the patient declines treatment, he or she will still be more apt to seek treatment in the future.

Using the intraoral camera increases production and it will increase your confidence as a health-care provider and deepen patients' trust in you.<sup>2</sup> When patients see inflamed and bleeding gums in their own mouths, they are better assured that you know what you're talking about when you tell them they need to have scaling and root planing treatments to promote healing and stop the progress of periodontal disease.

The old saying "a picture is worth a thousand words" never rang more true than letting patients see for themselves why they need treatment. The use of the intraoral camera will slightly increase time per patient (by 45 seconds to 2 minutes), but the benefits of patient care, accepted treatment, and confidence will diminish any time constraints.

## Digital Radiography

Digital radiography is an important diagnostic and presentation tool that

can lend a high-tech element to a practice's image. It also allows you to reduce the exposure time on a standard x-ray unit to about one half the standard time of conventional film (this will vary depending on the type and age of the equipment being used), an important benefit that many patients appreciate. There are currently 2 types of systems available for digital radiography—direct and indirect.

Our office uses the indirect method. The film is a reusable phosphor-coated plate sealed in a moisture-proof disposable barrier. We use the same holders and placement techniques as film. The images are then unwrapped and placed in a laser scanner for 1 to 2 minutes and processed with an imaging device and software to create computerized x-ray images (Figure 3). The plates are then erased by exposing them to bright light for 2 minutes and then are repackaged in the sealed barriers for reuse.

Some offices use the direct method where the film is a plastic-encased sensor connected to the computer in the operatory (Figure 4). Standard sensors are wired, but wireless sensors have entered the market. They communicate via radio frequency with a receiver connected to the computer. The sensors are covered with disposable sleeves, then exposed. Because they are more rigid and thicker than film, adapted holders and a modified placement technique are required. The sensor is placed slightly away from the tooth to use the space of the palatal vault and allow the sensor to fit comfortably. As with phosphor plates, the exposure time is reduced by about one half.

While not flexible like phosphor

plates, sensors can achieve a significant time savings—images appear on the operatory screen 3 to 7 seconds after the exposure, thus decreasing overall chair time.

Once radiographs are available in the software, they become a tool. Images can be enlarged or enhanced to effectively present conditions to the patient and discuss treatment options. Placed side-by-side with an intraoral camera image, they can be used to thoroughly illustrate the progressive nature of dental disease. These images also can be incorporated into the patient's treatment plan for a "take home" presentation or e-mailed to a specialist.

## Technology Return on Investment

The most important purpose of technology in the dental office should be the increase in production that results from higher patient acceptance of treatment, and the time and effort efficiencies of digital radiography, computerized scheduling, patient billing, and electronic insurance claims processing. Reporting tools are available to monitor the business systems in place in the dental office and the result is a better quality of life in the practice because of enhanced patient and staff communication.

One of the most common concerns

regarding implementation of new technology in the dental office is the up-front cost. Investing in technology is expensive, but, amortized over time, you will come out ahead.

There are several factors to consider when making the decision to implement new technology:

1. The actual cost of setup and

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maintenance of the technology.

2. Comparative costs of what you are already using (eg, x-ray equipment, film, and processor).

3. Tax savings for the dentist buying the equipment.

4. Increase in productivity in using the new technology.

For example, compare digital and film radiography. Our office chose a phosphor plate imaging system and found the cost to be dramatically lower over time. Phosphor plates can be used many times, no chemicals are needed for processing, and the scanner requires virtually no maintenance.

We calculated the cost of traditional periapical film at about \$1 each,

representing a cost that would go up, but never go away. With digital radiography, phosphor plates cost about 20 times as much initially, but can be used hundreds of times. Over time, phosphor plates save money and don't require duplication.

With tax incentives available for capital equipment purchases, invest-

ing in technology is a no-brainer. Tax savings are beneficial for both the dentist and the staff because there is more cash available to reinvest in additional technology, or even to offer pay raises and bonuses.

## Making It All Work

To reap the benefits of dental technology, the entire office has to be committed to integrating it into the daily routine and making it a standard component of a core process—every new patient exam, every hygiene check, and every treatment plan presentation. If production falls flat or starts to slide, check these standards and make sure they are

being used effectively, or brainstorm new ways to enhance patients' experiences in your office. Dental hygienists have the greatest opportunity to make an impact with technology. They should make notes of what patients respond to and share their ideas with their team.

When choosing a technology partner, look at the product and the company behind the product. Ask about telephone and on-site support. Visit an office that is using the technology you are considering to ensure it is a good fit for you. In our office, we use EagleSoft (Patterson Dental Supply, Inc, Effingham, Ill; [www.patterson.eaglesoft.net](http://www.patterson.eaglesoft.net)) practice management and clinical software.

Technology should be fun and bring creativity and enthusiasm to your practice. Start with plenty of training, seek opportunities for advanced training, and exchange ideas with colleagues. The manufacturers of the gadgets will do their jobs to make equipment work, but the dental team has the power to make it a success. **COH**

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