# Is patient care improved by a paperless office?

## Going Paperless Reaps Immediate Benefits
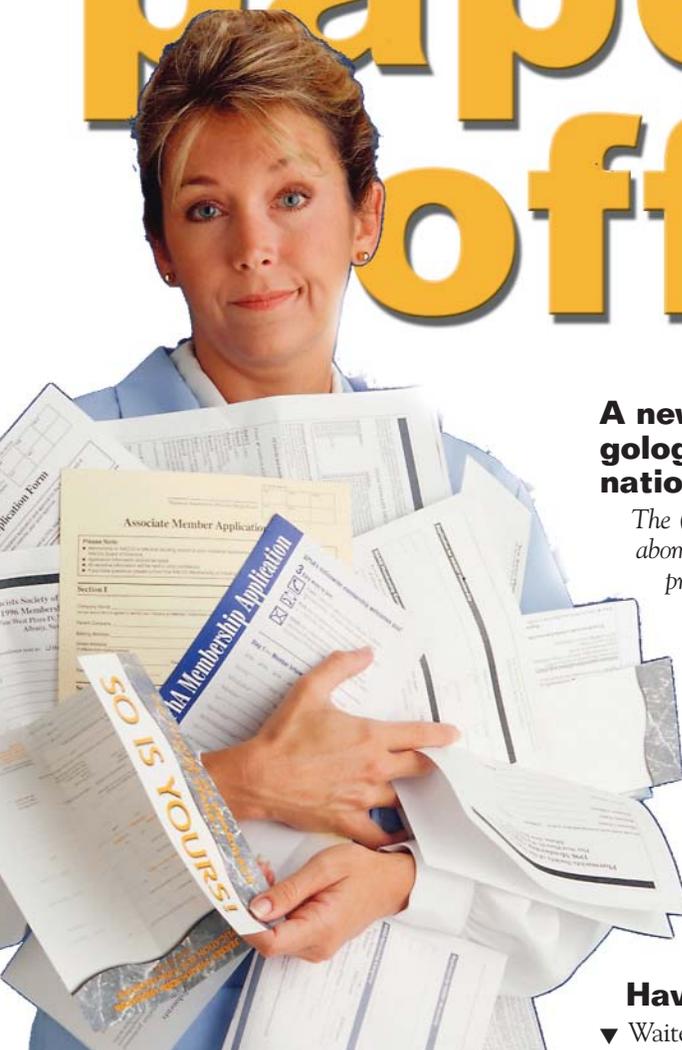
### A new digital otolaryngology practice attracts national attention

*The (paper) medical record is an abomination ... it is a disgrace to the profession that created it. More often than not the chart is thick, tattered, disorganised and illegible; progress notes, consultant's notes, radiology reports, and nurses notes are all comingled in accession sequence. The charts confuse rather than enlighten; they provide a forbidding challenge to anyone who tries to understand what is happening to the patient.—H.L. Bleich, MD*

### Have you ever—

▼ Waited for days on end for lab results or information from a referring physician?

▼ Lost that vital "post-it" attached to a patient's medical record?

▼ Tried to talk to a patient while rifling through his or her medical record?

▼ Sat at your desk until 10:00 pm completing medical records?

Obviously, too many physicians from every specialty have been afflicted by these office mishaps. That is why medical writers from *The Washington Post* Health Section immediately jumped on the news that the partners of Washington ENT, a new otolaryngology practice located in the heart of the nation's capital, had decided to open an all-digital or "paperless" medical practice. The result was "Doctors Go Digital," the cover story for the May 15 edition of the *Post's* special "Health Section."

Washington ENT is hardly the first medical office to go digital. The Defense and Veterans Affairs Departments have instituted computer-based electronic medical record systems in the majority of their medical treatment facilities. But for a wide range of reasons, physicians in private practice have not ventured into a paperless environment. In fact, the *Post* reported that just three percent of the nation's private practitioners presently utilize electronic medical records.

However in a recent report, a major investment bank, W. R. Hambrecht, projects that by 2004 one in five U.S. doctors will use handheld devices for such activities as online recording of medical charges and prescribing. In addition, investors are being told that physicians will be able to access a patient's medical history, order lab tests, dictate notes, and look up medical information, all through their handheld devices—and the applications that make these uses possible will generate at least $2 billion in revenue for handheld systems suppliers.

So a visit was made to Washington ENT to further explore how a digital office is constructed, listen to assessments by partners and

Washington ENT physicians: from left to right: Sandra Woll MD; Thomas Troost, MD; and Catherine Picken, MD.

staff, and most importantly, to learn the impact on patient care. The early reviews are promising: the practice's partners are finding a more streamlined process, improved productivity, and more time available to improve patient care. Essentially, 21st century technology is enabling the specialists to return to a more traditional and beneficial relationship between physician and patient.

## Going digital and getting started

To provide a complete portrait of what it takes to go digital, some pertinent information should be offered about Washington ENT:

▼ The practice is new, opening earlier this year with two partners, **Thomas Troost, MD** and **Catherine Picken, MD**, and one associate, **Sandra Woll, MD**. Space capacity is for five physicians/partners. All three had known each other through affiliation with Georgetown University.

▼ Washington ENT is located in the heart of Washington, DC. The general otolaryngology practice provides diagnoses and treatment to the greater metropolitan area.

▼ Barth Doroshuk is the practice's chief operating officer (COO) and architect of the digital system. He is an executive with an engineering background from the commercial nuclear power and utility industry and the spouse of Dr. Picken.

Developing a paperless

office was not a prime motivator in establishing the partnership. Drs. Picken, Troost, and COO Doroshuk held several brainstorming sessions to create a practice vision. The view of the practice was that it would consist of a series of concentric circles, the center consisting of doctor and patient. Outer circles could consist of administrative and patient support functions. The team then began assembling the tools that best facilitated that structure.

A unanimous decision was made to create a digital office. Yet concerns remained. Doroshuk remembers one: "We were reluctant at first to go to a paperless office—we heard of different industries failing. We did an exhaustive search . . . a consultant helped whittle down the products to determine what the platform requirements really need to be. We determined part of the platform was medical; the other part was what we needed to run a business."

After selecting A-4 Health Systems as one of its contractors, training became the major requirement. Formal sessions were provided by the supplier at locations in Troy, MI, Washington, DC and Cary, NC. More than 500 hours in the classroom (for all staff) were involved. Another thousand hours encompassed process evaluation, process mapping, and change management—

*more* ▶
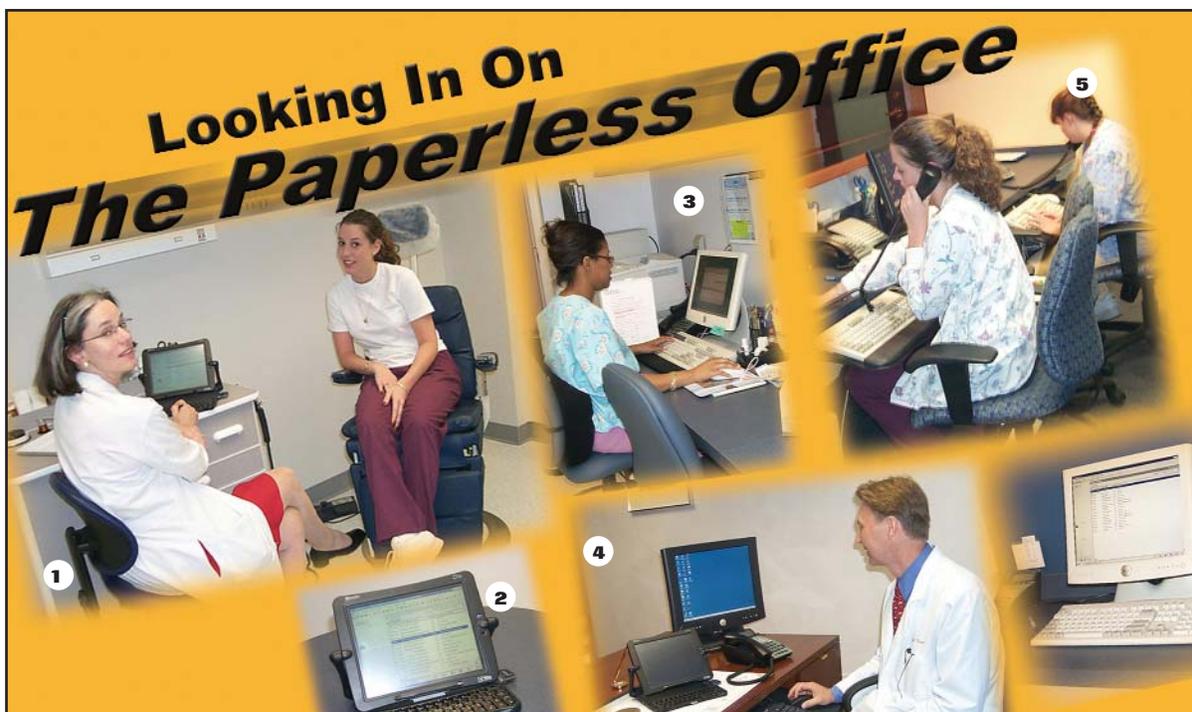


1. Dr. Picken examines a patient and records notes in her Clio. 2. The Clio enables doctors to instantly access electronic patient records and take notes on the keyboard anywhere in the office. Icons pop up to alert them to the arrival of electronic lab results, phone messages (urgent ones are outlined in red) and requests for prescription refills. 3. Elsewhere in the office, billing is being administered electronically. 4. Dr. Troost gets ready to tackle his daily paperwork, which has been reduced from two hours to 45 minutes. 5. Up front, Patient coordinators are communicating patient arrivals digitally and managing the digital office.

# The Patient Encounter with *The Paperless Office*

**CHECK IN:** No paperwork required of patient. Patient awaits appointment in "Internet Cafe." The digital office sends notification that patient is ready for appointment.

**PRE APPOINTMENT EXAM:** Patient is made comfortable in exam room. Medical assistant reviews patients chief complaint and enters this and other relevant information in digital office via computer kiosk outside office.

**PHYSICIAN EXAM:** Physician performs optimum quality exam using comprehensive and up-to-date chart information. Using a hand-held wireless device, physician reviews current labs, present condition, and previous encounters. Physician generates orders.

**ENCOUNTER RESULTS:** Instantaneous management of examination results: prescriptions, lab tests, follow up appointments, billing levels, surgery scheduling if necessary. The digital office sends orders and billing information to front desk in time for patient checkout.

**CHECK OUT:** Patient is given all relevant information related to prescriptions, billing, and next appointment. Claim is submitted electronically and billed per provider.

ment for the "new" way of doing business. The training sessions were seen as key in developing the teamwork necessary to make the system work.

New patients came to the practice, and accompanying them were their paper records. Consequently, the most labor intensive component of setting up the practice was the preparation of the paper records, converting them into electronic medical records, and then shredding the paper. Another task, still ongoing, was for Drs. Troost and Picken to modify their own data base and supplier software to serve the unique requirements of otolaryngology.

The cost for setting up Washington ENT as an all digital office was $300,000. The advertised increase in productivity for the system ranges from 10 to 30 percent.

## The patient's electronic journey

The first requirement for any new patient at Washington ENT is to provide patient information—all on paper.

Instead of asking patients to complete the two page medical history on a computer, a decision was made to do it the old fashioned way because of concerns about patient confidentiality and the number of elderly patients (less inclined to "go digital"). The individual patient information is then scanned into the computer information system, and the two page form is then shredded.

Patient arrival time is then logged in against actual appointment time—a message is immediately sent to the small, hand-held computer of the responsible physician notifying that arrival has occurred and the check-in is under way. The waiting patient can either read a (paper) magazine or journey to the "Internet

Café," two personal computers located in the reception area. Individual email can be retrieved or websites can be explored. Inappropriate web sites are blocked, and the staff is notified by computer if access to a "blue" Internet site is attempted.

When the patient enters the examination room to see a physician, the patient record is already on their hand-held computer, known as "Clio."

## Clio and the fax machine—keys to the system

*The Washington Post* described Clio as a hand-held computer that weighs less than the city's yellow pages and is somewhat smaller than a typical laptop. The device has an adjustable screen, keyboard, and three-hour rechargeable battery. Each physician in the practice is given two devices, one for morning and one for afternoon appointments.

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*Simply put, the versatile Clio communicates directly with a wide range of servers enabling immediate access to electronic patient records, lab results, voice recordings, phone messages, and requests for prescription refills. Note taking and tasking can be conducted with the use of a stylus.* — The Washington Post

**No Paper Zone**

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"Getting used to the idea that a computer could help me examine a patient" was a chief worry of Dr. Picken, who had not even ventured onto the Internet prior to joining Washington ENT. Now she concurs with Dr. Troost, who raves that Clio allows him to spend more time with the patient, and best of all, dictation is eliminated—information can now be easily keyed in.

Clio supports the relationship between the physician and the practice's electronic infrastructure. It is the fax machine that provides communication between Washington ENT and other medical practices, laboratories, and hospitals. Email is not used to transmit patient records. However, there are two forms of email utilized by office staff. One of the systems, embedded inside the EMR, is used for communication on medical records. The other is the general system utilized for business activities. Patient information from Washington ENT is sent out by fax, transmitting electronic data that appears in paper form at the nondigital office. Information sent to Washington ENT by fax is immediately scanned into the system's electronic medical record system. The advantage is that reports to referring physicians now are delivered in the same day, even within hours, instead of a week or two later. Dr. Troost used to spend two hours a day dictating letters and updating medical records and reports after seeing patients. Now that time has been reduced to 45 minutes—and that task can now be performed, with a configured personal computer, from his residence.

# Health Insurance Portability and Accountability Act of 1996

To improve the efficiency and effectiveness of the healthcare system, the Health Insurance Portability and Accountability Act (HIPAA) of 1996 included a series of "administrative simplification" provisions that required the Department of Health and Human Services (HHS) to adopt national standards for electronic healthcare transactions. By ensuring consistency throughout the industry, these national standards will make it easier for health plans, doctors, hospitals and other healthcare providers to process claims and other transactions electronically. The law also requires security and privacy standards in order to protect personal health information.

## Summary of Administrative Simplification Provisions

*Standards for electronic health information transactions.* Within 18 months of enactment, the Secretary of HHS is required to adopt standards from among those already approved by private standards developing organizations for certain electronic health transactions, including claims, enrollment, eligibility, payment, and coordination of benefits. These standards also must address the security of electronic health information systems.

*Mandate on providers and health plans, and timetable.* Providers and health plans are required to use the standards for the specified electronic transactions 24 months after they are adopted. Plans and providers may comply directly, or may use a healthcare clearinghouse. Certain health plans, in particular workers compensation, are not covered.

*Privacy.* The Secretary is required to recommend privacy standards for health information to Congress 12 months after enactment. If Congress does not enact privacy legislation within three years of enactment, the Secretary shall promulgate privacy regulations for individually identifiable electronic health information.

*Pre-emption of state law.* The bill supersedes state laws, except where the Secretary determines that the State law is necessary to prevent fraud and abuse, to ensure appropriate state regulation of insurance or health plans, addresses controlled substances, or for other purposes. If the Secretary promulgates privacy regulations, those regulations do not pre-empt state laws that impose more stringent requirements. These provisions do not limit a state's ability to require health plan reporting or audits.

*Penalties.* The bill imposes civil money penalties and prison for certain violations.

*Public Law 104-191, 104th Congress*

## Increased efficiencies, greater satisfaction

The practice's physicians are not alone in being sold on going digital. Office staff and patients are equally enthusiastic.

Sandi Laureti, senior patient coordinator, says the system cuts down on overall staff frustration and eliminates the loss of patient records; she estimates that her efficiency has increased tenfold. Ebony Pfifer adds that use of Clio has eliminated filing and the need to pull up charts. Dave Trippi, senior budget analyst, believes that a digital system forces the charts to be done now. With charts completed

# Are you ready for the Paperless Office

the same day, billing can occur immediately, thereby shortening the accounts receivable cycle.

Patients and other Washington-area physicians were not reluctant to voice their approval to *The Washington Post*. Key to patient satisfaction has been the attainment of an average wait time of less than 15 minutes—very important to patients who must park in garages charging $13/hour after the first 60 minutes.

## Who's in charge?

Does Clio have the potential to be the practice's "managing partner"?

"The first week that I was doing this I felt that the machine was driving me," recounts Dr. Troost.

"After a short while, the anxiety leaves."

Like any new technology there is a shakedown period where a comfort zone has to be established and the operator has to learn how the computer-based system should serve instead of command. Dr. Picken, admittedly not

a computer afficionado, feels the system has allowed her to catch up and be in control of her practice.

Other benefits to going digital are not readily related to direct patient care. Any physician interested in outcomes research would find electronic medical records tailor-made for the compilation of data. Another benefit would be in the event of a drug recall; keystroking the name of any pharmaceutical being pulled from the market would provide an immediate listing of patients that had to be contacted.

As more hospitals go digital, residents may desire to seek out practices that have decided to convert to the electronic medical record. The commitment to go paperless was a major incentive for Sandra Woll, MD, just completing her residency, to join the practice. In her brief time working at the practice she too has found that quality time with patients has increased.

## New technologies lead to new questions

*Is going digital for everyone?* The Washington ENT experience provides some answers but creates more questions.

*Is the system cost effective?* The outlay of $300,000 has to be balanced against savings achieved in office space, lower energy costs, increased productivity. Washington ENT partners readily state it is too early to quantify how financially beneficial this system is.

*What about existing practices?* Washington ENT is a newly formed practice with the partners dedicated to creating a digital office. Practice space was found to best facilitate the installation of required computer systems. Existing offices face different challenges. Unanimity must be achieved among all partners before the commitment of time and resources should be made to go digital. The practice location may be suitable for the storage of thousands of paper files but not conducive to house a variety of computer platforms.

*Is the commitment there?* Washington ENT partners developed a business plan that identified specific targets to be achieved over an extended time period. How that plan would differ in an existing practice is unknown. All participants must be on board for the trip into the unknown.

Washington ENT is certainly one of the pioneers traveling into the digital or paperless world. It is inevitable that more Academy members will embark on this same journey, overhauling their practices, and achieving the hoped-for new efficiencies. When that occurs, the dialogue and exchange of information will increase and offer long term benefits to patients and Academy members.

## What Is an Electronic Medical Record?

In 1991, a National Academy of Science Institute of Medicine (IOM) task force highlighted deficiencies of paper-based medical records and avocated a movement toward electronic records. The IOM Committee on Improving the Patient Record stated that "the current paper medical record is insufficient in content, format, accuracy, and accessibility to allow determination of healthcare effectiveness and outcomes." The IOM report identified the following 12 critical attributes for an electronic medical record/computer-based patient record (EMR CPR) system:

▼ provides problem lists;
▼ measures health status and functional levels;
▼ documents clinical reasoning/rationale;
▼ provides longitudinal and timely CPR linkages with other patient records;
▼ guarantees confidentiality and audit trails;
▼ provides continuous authorized-user access;
▼ supports simultaneous user views in the CPR;
▼ provides access to local or remote information resources;
▼ facilitates clinical problem solving;
▼ supports direct physician entry;
▼ supports practitioners in measuring and managing costs and in improving quality;
▼ provides flexibility to support existing and evolving needs of each specialty

ALLERGIES: **PAPER**

## To Contact Washington ENT

*Barth W Doroshuk*
*Chief Executive Officer/COO*
*bdoroshuk@washingtonent.com*

Any questions to doctors regarding medical issues can always be sent via our website email address
doctors@washingtonent.com

## Media Notes

Attracting the attention of *The Washington Post* Health Section and a *Bulletin* cover story was not a coincidence for the Washington ENT practice. The news coverage of their practice is the result of adhering to proven techniques in reaching the public, media, and parties interested in medicine.

The first and most vital step was that the practice partners realized that their completely digital office was new and newsworthy. Their research revealed that no other private practice in the Washington DC area had taken the step to become completely digital.

The second step of the practice's outreach strategy consisted of communicating with three distinct audiences:

- *The referral base:* A letter announcing the opening of the practice and its digital nature was sent to referral base physicians as well as local otolaryngologists. This was followed up by a reception at the new practice office.

- *The media:* A news release, printed on the practice letterhead, was developed describing the office and why going digital was important. The Washington ENT partners had prepared a list of physicians, patients, and technical support personnel prepared to respond to reporters' questions.

- *Advertising:* Immediate action was taken to advertise the practice in local Verizon Yellow Pages.

The 3,000 word *Post* article provided extensive information to aid public understanding of a digital medical office. The article received an additional bounce when it was published in its entirety on the newspaper's Internet web site, www.washingtonpost.com. This all didn't happen by accident; it was the result of careful planning and methodical implementation.

### Take home lessons

Media coverage is never guaranteed but if you or your practice is advancing a new idea or offering an innovative way of delivering patient care, it is worth trying to get some publicity for your efforts. There are pitfalls.

Be careful of claiming "new" or "original." If you have a local artist paint original murals throughout your office, it is easy to verify artistic originality. On the other hand, a professional decorator may adorn your office with art and effects that appear in other practice offices.

*Make time:* A positive result of sending out a news release to stir interest in your practice is to have reporters want to come over, see your practice, and talk to you or your staff. A negative result is to not set aside a time when you will be available.

*Identify your interview subjects:* Before you embark on a publicity effort, make sure that you have a supporting cast (patients, referral physicians) identified to discuss, applaud, or comment on your innovation. Provide names if asked; do not offer as part of your outreach effort.