

New methods improve dental and surgical care

By ELENI CHAMIS
Staff Writer

Advances in medical technology are changing the way the Chapel Hill area thinks about medical services.

Dentistry is being improved by a new procedure called bonding. Bonding gives patients a quick, effective, rather inexpensive end to a problem that could relapse and cost a bundle. It closes gaps in teeth, recontours, covers stains and puts facades on the fronts of teeth. It can even be used to replace a missing tooth by bonding a false tooth into the space.

Bonding costs about \$60 a tooth and is a simple process, said Dr. James B. Reddin.

According to Dr. Harald O. Heymann, assistant professor of operative dentistry at the UNC School of Dentistry, dentists clean and dry the tooth and then continue with a process called "acid etching," in which the tooth enamel bonds with the filling material needed to repair the tooth. For a short period of time, the dentist applies phosphoric acid to the tooth. He brushes resin into the newly opened microscopic pores. Next a paste containing small bits of silica, quartz or other glass is applied to the tooth and it bonds with the tooth enamel. The paste is then molded and contoured to the proper shape. Finally, the tooth is smoothed and polished.

Unless a patient requests it, no anesthetic is given.

Eventually, bonding needs to be replaced due to wear or staining. Usually the restoration lasts up to five years, but no longer.

"Patients realize that the advantages of tooth bonding far outweigh the disadvantages and are quite receptive to bonding procedures even though they know these restorations won't last a lifetime," Heymann said.

"Because of the painless conservative nature of tooth bonding, many of the cosmetic procedures will become as second nature as getting your hair styled," he said.

Student Health Services will not do bonding, but it is adding dentistry to its list of services. There will be a dentist in the office twice a week to advise students, according to Dr. Judith Cowan, director of Student Health Services.

While some technology is less available to students, it is affecting other fields of medicine. In obstetrics/gynecology and ophthalmology, laser surgery is performing state-of-the-art operations. Two different types of laser

procedures are used in ophthalmology.

The first, laser canaliculoplasty, is for people who have contact lens trouble because their eyes do not produce enough tears. An argon laser solves the problem by closing off the patient's tear canals to let the natural tears stay in his eyes 40 to 60 percent more," Robin Cannady, C.M.A. with Simel Surgical Eye Associates in Greensboro, said.

The second type, laser trabeculoplasty, is used on glaucoma patients who are losing their vision. "We penetrate holes back in their eyes, let the fluids flow and not build up," Cannady said.

In obstetrics/gynecology, laser surgery is bringing cures too. With a carbon dioxide laser, professionals treat displeasure of the cervix, warts of the cervix and a few cases of herpes. An instrument called a colposcopy enlarges the cervix and makes it possible to locate and burn away bad tissue.

"The tissue sloughs off in a week or two and the new tissue remains," Debbie Shelton, an RN from Winston-Salem, said.

Shelton said the procedure runs about \$350, and insurance companies usually pay for it.

Laser technology is costly, according to Dr. David E. Eifrig, chairman of the Department of Ophthalmology at North Carolina Memorial Hospital. An argon laser runs as much as \$35,000; a krypton laser costs \$50,000.

Another process called lithotripsy is helping those with kidney stones. Lithotripsy is a non-surgical treatment which involves an electrode that resembles a nine-inch spark plug, according to Mary Beth Stanley, the public relations director at Piedmont Stone Center in Winston-Salem.

The patient is lowered into a metal tub filled with water. The electrode is fired, causing a shock wave that makes the water evaporate. When the wave is pinpointed, the patient is moved over the wave. The brittle stone is forced to break up.

According to Susan Dancey, an X-ray technician at the Bowman Gray School of Medicine in Winston-Salem, "The procedure runs about \$4,300. That's for two days and two nights in a hospital. Some places charge twice that."

Lithotripsy has not yet come to the Chapel Hill area. Judy Benoit, clerical supervisor at NCMH, said that NCMH sends most of its patients to Fayetteville.

Software piracy: hacker's boon, seller's bane

By ROBBIE DELLINGER
Staff Writer

More than \$15,000 of illegally obtained computer programs are scattered around a UNC senior's dorm room.

A computer hacker's paradise, it is complete with programs—word processing, business accounting, video games—stored on dozens of floppy disks that overflow their storage containers onto his shelves, desk, computer and finally, the floor.

"It's no big deal," he said. "Stealing programs is easy to do. Everyone does it."

But software piracy is a big deal to manufacturers, who stand to lose millions each year in potential sales, according to Rick Snodgrass, a UNC assistant professor of computer science. And manufacturers therefore design protective codes to prevent disks from being copied.

Generally, hackers pirate commercial software by using "breaker" programs. The programs, developed either commercially or by amateurs, are designed to break the codes.

According to Snodgrass, the legality of these commercial programs is under consideration by the courts, but so far no final verdict has been reached. "It's not clear whether you can get a patent on software, because it isn't human-readable," he said. "The law is very far behind the technology."

According to Snodgrass, there is

a constant battle between software developers and breakers, since each new edition of software generally has a new protective code and breakers must continually develop new programs to meet the challenge.

"The (best) way to steal programs is to get involved in a computer network called a bulletin board," which operates over telephone lines, said the senior from Charlotte. "It's like a computer underground. Once you learn the passwords, it's a common source for everybody to exchange different programs they've bought."

He said that a modem, which allows the computer to communicate over telephone lines, makes the networks accessible, and therefore broader piracy is possible. "Almost any system that communicates over the phone is vulnerable (to piracy)," he said.

According to Arthur Summy, a detective lieutenant of the Chapel Hill Police Department, gaining unauthorized access to any computer system constitutes a felony under North Carolina Statute 14-554 and is punishable by imprisonment of up to 10 years or a fine or both. Copying commercial disks through the use of a breaker program is an infringement of federal copyright laws.

"I don't worry about getting in trouble," said a sophomore from Greensboro who is guilty on both



counts. "There's just no chance of getting caught with an operation this small. Have you ever heard of anybody being arrested for recording an album? No way."

Snodgrass agreed that software piracy is difficult to detect. He said that most of the program theft on campus consists of copying computer class assignments and commercial disks. "Usually, students who steal programs will simply take a program printout from the trashcan. Sometimes they will use a breaker program to copy a disk they've

stolen," he said.

According to Snodgrass, breakers were originally designed to provide copies for professionals who could be seriously hindered if their original software failed, but this idea has been abused.

"(Software piracy) isn't like 'War Games,'" a senior from the Triangle area said. "The authorities are not going to come get you. Stealing programs happens all the time. Everybody does it and nobody can really do anything about it."

Mime troupe to move through the highlights from a decade

By BETH RHEA
Staff Writer

TOUCH Mime Theatre, a Triangle-based mime production company, will present highlights of its work from the last 10 years in performances this weekend at the ArtSchool in Carrboro.

"TOUCH Ten Years" will include current works as well as some that the group has not performed before.

Three mimes and a composer form TOUCH, which was founded in 1976 by Sheila Kerrigan and Jef. The other members are Skip Menderl and Paul Whetstone, who became the group's pianist.

"If you have seen mime, you haven't seen what we do," said founding member Kerrigan. "We lean more toward theater."

The TOUCH troupe has developed its own unique style, combining mime with theater. Over the past 10 years it has adopted various components of theater such as masks, costumes, speech and instrumental sound effects.

"TOUCH mime is different from what a lot of people think mime is," Jef said. "It's physicalizing thoughts."

TOUCH has established a reputation for combining a sense of humor with an interest in the effects of technology on people, producing what some critics have labeled "techno-mime."

"We don't like to be beaten over the head with morals or to be told what is right and wrong," Kerrigan said. For that reason, TOUCH uses comedy as a medium to make strong statements about the societal effects of modern products such as televisions and alarm clocks.

During the past decade they have performed at hospitals, prisons, schools, theaters, outdoor festivals and on television. The performance this weekend will be the company's last show in affiliation with ArtSchool. From then on TOUCH will be an independent organization.

For this weekend's special performance, TOUCH has invited former members to perform as guest artists.

"TOUCH Ten Years" will be performed by TOUCH Mime Theatre tomorrow and Saturday at 8 p.m. at ArtSchool. Call 929-2896 for ticket information.

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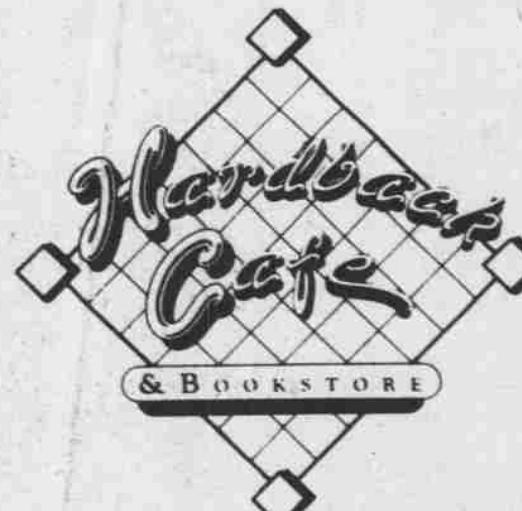
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