



he was a model who loved her smile. It wasn't perfect—one front tooth over-lapped the other—

but it picked up a hint of light which she thought gave her character. One day she chipped it. Her dentist filed it down, bonded it and handed her the mirror. When she looked, she saw perfect teeth. But she did not see her own smile.

The dentist tried again. Still the tooth wasn't right. The by-now anguished patient then went to Ronald Goldstein, D.D.S., clinical professor at the Medical College of Georgia's School of Dentistry. He took her into the lab and handed her a wax-carving instrument. He let her sculpt away at a set of model teeth until

she thought it looked like hers; then he made a replica and restored her signature grin.

Dr. Goldstein, who estimates that Americans spend more than \$3 billion a year to correct unsatisfactory dental work, tells the story to point up the importance of communicating with a cosmetic dentist to let him know what you want.

In 1994, more alternatives than ever before are available to those who want to improve the look of their teeth and their smile. SELF surveyed some of the country's top cosmetic dentists to find out about the latest techniques and technology.

Bleaching/whitening A process that treats the teeth with a strong oxidizing or bleaching agent like peroxide to diminish or eliminate stains. In high school, nearly everyone has the same color teeth, points out Gordon Christensen, D.D.S., Ph.D., adjunct professor of biological and agricultural sciences at Brigham Young University and clinical professor at the University of Utah. But by the time we are in our thirties, coffee, tobacco, childhood use of antibiotics like tetracycline and just plain aging can stain the teeth or start to turn them brown.

Although studies in the U.S. up to now have not discovered significant problems resulting from in-office bleaching, peroxide bleaching has been banned in the United Kingdom since 1985 because of concerns about the amount of peroxide needed and its possible carcinogenic effects. Many dentists SELF spoke with believe that

Today's
cosmetic
dentistry
procedures
give you
lote to
smile about,

in-office bleaching can be the least expensive way (\$185 to \$450 for the procedure) to remove stains, and that it's safe.

Depending on the depth of the discoloration and the number of teeth being treated, bleaching can take from one to six office visits. The procedure takes a minimum of one half hour per tooth, and a number of teeth can be treated during one visit.

Hydrogen peroxide bleaching is usually done entirely in the office. After an initial appointment, dentists may offer at-home whitening kits (they cost around \$200 to \$400). Included is a custom-made mouth guard that looks like the kind football players use; it works with a carbamide peroxide gel and is worn for several hours over a period of one to six weeks. A follow-up visit should be scheduled for one week after at-home treatment begins in order to monitor the whitening process.

With carbamide peroxide whitening, "discoloration will take as long to come back as it did to set in," says Dr. Christensen. Goldstein notes that bleaching and whitening are not very effective on tetracycline-stained teeth, which need veneers or bonding.

There are possible aftereffects: Bleaching can make teeth more sensitive to hot and cold, especially if a patient has exposed roots. Experts suggest desensitizing roots first with fluoride paste or gradually building up their exposure to bleaching agents. And in the past, dentists worried about patients swallowing the hydrogen peroxide liquid. Now the carbamide peroxide gels make spills less of a hazard.

Most dentists advise against buying over-the-counter or TV-advertised kits. The dam that comes with them is not custom-made, so whitening may not be uniform. In addition, improper use of the whitening agent can cause permanent nerve damage, if the peroxide comes in contact with tooth decay.

The FDA is considering classifying the advertised kits as drugs and is concerned about long-term effects. But because so far no studies have suggested that there are injuries or hazards related to the kits, the agency still allows manufacturers to sell them.

Bonding In order to change a tooth's shape or cover dark stains, the tooth's enamel is lightly etched to create microscopic impressions that will receive a material called composite resin.

For years, the answer to a crooked, chipped, short or badly spaced tooth was orthodontics or a crown (a cap or cover made of acrylic, porcelain, stainless steel, gold or other metals used to replace a portion of the tooth). On average, a crown costs \$400 to \$2,500 and the procedure involves two to four office visits. Bonding can be accomplished in one office visit. At \$100 to \$300 a tooth, bonding is a

BEFORE AFTER

In the past, crowns were suggested by cosmetic dentists to correct problems such as ("before" photos, from the top) wide gaps between the teeth, discoloration and crooked teeth. But today, laminate veneers made of plastic or porcelain can be applied to the enamel with a resin cement to change and improve the appearance of the teeth ("after" photos).

great quick fix, less expensive and less radical a procedure than getting a crown but not as lifelike nor as strong as the new veneers. Bonded teeth can stain more easily than natural teeth, and dentists interviewed estimate that the life span of a bonded tooth is approximately three to eight years.

Cosmetic contouring Reshaping the natural teeth to make them look straighter or more attractive.

For people with properly aligned arches but protruding or crooked teeth who don't want to undergo the time and expense of braces, contouring the teeth with fine diamond stones and sandpaper discs, rubber wheels or polishing burs can change their shape or create the illusion of straightness. Cosmetic contouring can cost from \$40 to \$850 for part or all of the mouth. Contouring a tooth is painless and usually can be accomplished in one appointment.

Laminate veneers A thin porcelain or plastic shell is bonded to the enamel of the front teeth.

People with crooked or badly discolored teeth who might once have opted for caps are now choosing veneers. During two to four appointments, the dentist prepares the teeth for the veneer by removing 0.2 to 0.5 mm of tooth enamel with acid, a hand piece or a drill, then applies thin veneers made of plastic or porcelain with a resin cement. The veneer is then cured with a high-intensity light. which bonds it to the tooth in 60 seconds. At an average of \$400 to \$1,000 a tooth, plastic is cheaper, but not as strong or lifelike as the new porcelains, which cost about the same as a crown. The life of a veneer has been estimated at eight to 15 years, and more frequent professional cleaning sessions may be necessary with plastic veneers to keep them sparkling.

Gingivectomy/gingivoplasty Reshaping of the gums through surgery or by laser.

Cosmetic dentists say that the gums frame the teeth in the same way that a haircut frames the face. But by the age of 40, many people have lost gum tissue to periodontal disease and toothbrush abrasion. Others are born with too much gum or may suffer from an increase in gum tissue as a side effect of prescription drugs such as Dilantin and the heart medication Procardia. Now, with gingivoplasty, gum tissue can be reshaped to make the gum line symmetrical. Periodontists can also change overly gummy smiles by reshaping gums with cosmetic gingivectomy surgery with a scalpel or by laser.

According to Robert Pick, D.D.S., associate clinical professor of (continued on page 154)

STEALING

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biochemical self-medication may be at work. "Perhaps the act itself is a repetitive trauma," Goldman says. "Each theft elicits a necessary physiological response, the positive reward of which becomes learned and repeated."

So, quite literally, kleptomania can be seen as an addiction. "It's an opiate rush," Goldman adds. "Lots of survivors of sexual abuse are desperately looking for ways to reduce stress. Sometimes they cut themselves to release endorphins. Maybe kleptomaniacs are doing the same thing."

That there is a cogent inner logic to this interpretation can be deduced and vividly felt in the work of Kathryn Harrison, a novelist whose recent book, Exposure, is a harrowing portrait of a kleptomaniac named Ann Rogers. According to Harrison (who herself shoplifted regularly when she was a teenager), Ann is a woman for whom "shoplifting is a sexual surrogate." Ann's shoplifting episodes, the author says, follow the arc of a sexual conquest: the selection and stalking of the desired object, the tension leading up to the act, the climactic moment, the blissful release, and then finally the feelings of guilt and shame the next morning.

Yet when she started the book, Harrison says, she had no idea that Ann was a compulsive shoplifter. The story shifts back and forth between Ann's early life and the present day, between the symbolic abuse Ann suffered at the hands of her father, a celebrated photographer who took exploitative pictures of her as a child, and the slow deterioration of her life as an adult. Her father had stopped photographing her when she began to look more like a woman than a child, and in the familiar paradox of victims of abuse, Ann was devastated by his rejection. She responded like the survivors described by Goldman; she started to cut and harm herself.

"I turned in a partial draft," Harrison says, "and the editor said to me, 'What does she do now?' I said, 'Oh, I hadn't thought of that.'

"A few days later, it came to me. She steals."

TEETH

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periodontics at Northwestern University Dental School and in private practice in Aurora, Illinois, the surgical procedure is painless—except for the usual shots. There's some soreness, which fades within a week. Laser and gum surgery and reshaping of gum tissue costs from \$150 to more than \$1,000, with most procedures delicate enough to require a periodontal specialist. It will be two days to a month before a patient sees firm, tight gum tissue.

The nonsurgical face-lift Using veneers, caps and bonding to enlarge the teeth and change the facial appearance.

"I see dentists taking more and more responsibility for the shape of people's faces," says Manhattan's Irwin Smigel, D.D.S., who 14 years ago demonstrated bonding on the television show *That's Incredible!* Using porcelain veneers, crowns or dentures, Dr. Smigel corrects teeth that recede or protrude, achieving what he claims are effects similar to those of a subtle face-lift.

Smigel's technique is to overbuild porcelain veneers on molars, premolars and other side teeth. He then shapes them carefully and bonds them in a patient's mouth. The "re-angled" veneers, he claims, can make narrow lips look full, give saggy cheeks a lift and diminish lines from the nose to the comers of the mouth.

There might be an illusion of a facelift, thinks Atlanta's Ronald Feinman, D.M.D., because patients often have a better self-image and look happier after cosmetic dentistry. Newport Beach's Cherilyn Sheets, D.D.S., agrees that patients look older if their teeth are discolored. "This kind of dental work," says Dr. Sheets, "gives you a chance to turn the clock back."

Tufts University's Lloyd Miller, D.M.D., used to pat a tooth-colored wax on a patient's teeth to see the effect of the enlargement. Dr. Miller now uses bonding material that can be hardened but not fused, so that the material can be removed from the tooth for the patient to take home and try out in front of the mirror.

One expert cautions against plumping up molars and side teeth to lift the face. "The effect of a quick cosmetic fix can later result in great difficulty in cleaning or even a disfiguring disaster," he says. Gum disease, and bone and tooth loss can occur when caps and veneers interfere with the natural cleaning mechanism of the tongue and lips.

Los Angeles-based Louise Farr is a television producer, and author of The Sunset Murders.

High-tech equipment: taking the ouch out of a dental visit

- Intraoral cameras, the size of a cigar or a pen, magnify the inside of the patient's mouth up to 35 times, making it possible to see hairline cracks and fillings up close. Dentists like David Baird, D.D.S., who ran his own dental teaching facility in Bellevue, Washington, use these cameras to provide patients with photographs or videotapes to consider the proposed treatment.
- Improved prep work Perhaps the most exciting technical development for patients is the KCP 2000 kinetic cavity preparation system. Moving across the tooth are 4.3 million alpha alumina particles per second that diminish stains or small cavities, usually without the need for anesthetic.
- Radiovisiography is a new computer color technique that zooms in close to the teeth with an in-mouth sensor, then displays the image on a monitor. It requires

- up to 90 percent less radiation than conventional X rays, and may catch a problem sooner, due to better accuracy.
- Dental records on display As a dentist or hygienist examines a patient's teeth, he describes the key problem areas, while speaking into a microphone headset connected to a voice-activated charting system, which translates the problems into a visual record of the mouth, highlighting these areas in a printout of its findings the patient. It has a memory, too, and can chart improvement—or backsliding—since the previous appointment.
- The news in crowns CAD-CAM (computer-assisted-design/computer-assisted-manufacture) is a new software program that promises to simplify the crown procedure by allowing the dentist to create inlays, onlays and veneers in the office in one visit. CAD-CAM crowns are still in the experimental stage.