

BRAND NEW TEETH IN JUST AN HOUR

New procedure gives patients dental implants virtually pain-free

Nick Mason, Herald Staff Writer

Thanks to computer advances in dental surgery, Georgia Christie has a new smile for the holidays. Christie traded in her upper denture for a set of acrylic permanent teeth Dec. 14 in a new dental implant procedure featuring no incisions, no stitches and no pain. The traditional dental implant process involves cutting gum tissue open.

Christie, 82, of River Wilderness in Parrish, was the first patient of her son-in-law, Dr. Lindsay Eastman, to get replacement teeth in computer-guided surgery with the trademark name Teeth-In-An-Hour. "It's all white and pearly," Christie said of her new teeth. "There was no pain. I was so happy because I thought he was fooling about the pain, but he wasn't. It was easy. It was great."

Eastman, a periodontist in west Bradenton who specializes in treating diseased gums, is trained to use computer software and a three-dimensional surgical template produced by Nobel Biocare AB of Goteborg, Sweden. The technology allows dental specialists to plan and perform implant surgery on a computer replica of the patient's jaw. After

completing the surgery on computer, Nobel Biocare manufactures and sends the dental specialist a customized template that looks like an oral retainer and is designed to fit precisely and snugly onto the patient's gum line. The template serves as a surgical guide for implanting one or more grooved titanium rods into the patient's jaw bone in the exact location selected previously on the computer, while causing the patient little or no pain. The computerized process allows prosthetic teeth and gum made of acrylic or porcelain materials to be manufactured in advance. Those natural-looking replacement teeth and gum are anchored to exposed tips of the implanted rods, with the procedure completed in an hour.

"They are not going to hurt, and they are going to have immediate results," Eastman said of patients. "I can't wait to see their smiles. I can hardly wait for the patients to come back and say 'This is wonderful.' It's going to change their life. "This stuff has got me more excited about coming to work than ever before," said Eastman, a periodontist for 25 years and implant surgeon for 15 years.

Dr. Doug Jungman of west Bradenton is the general dentist who designed Christie's replacement teeth. "My role is to fabricate and design what you want the teeth to look like, building the teeth to go on top of the implant," Jungman said. "I deal with how they are going to look cosmetically and function." "This is a huge advancement," Jungman said of computerized implant surgery. "It's going to look better. It's a quantum leap in making it so much better and easier for the patient."

Eastman and Drs. Craig Misch and Burr Bakke of Sarasota are the only dental specialists in Manatee and Sarasota counties among a select group nationwide trained in the computerized process, said Kevin Mosher, vice president and general manager of Nobel Biocare USA, the Swedish company's North America division headquarters in Yorba Linda, Calif. "This has only been commercially available in the United States since June," Mosher said. "There are a little over 400 doctors trained in the United States. It's primarily oral surgeons and periodontists that have been through the training." The computerized surgical process has been performed on an unknown number of patients in North America, Europe and Asia, Mosher said. There were 1,700 implants installed during clinical testing in the United States and Europe, he said. Christie and other patients replacing dentures with permanent replacement teeth will notice a major difference, Mosher said. "With a denture, you pull them out and put them in a glass of water each night," Mosher said. "With these replacement teeth, physiologically they become part of the body. They don't get cavities, they don't turn yellow, they don't get periodontal disease. And food tastes like it used to. With dentures, the whole palate is covered with plastic."

Misch, an oral surgeon specializing in prosthodontics, which is replacing missing teeth, was among dental specialists participating in clinical testing of the Nobel Biocare computerized system before it was approved by the U.S. Food and Drug Administration in 2004. He said he has used the process in treating about 25 patients. "Nobel Biocare took implants to the next generation by incorporating the use of computer technology," said Misch, who has performed traditional dental implant surgery for 20 years. "It allows us to insert implants in the same position as we planned on the computer," Misch said. "Because we can put them in the same position, it allows us to have a set of teeth prior to surgery that we can attach at the time of surgery." Bakke said he has five patients in planning stages for the computerized surgery, but none have new teeth yet. "Mine are waiting until after Christmas," Bakke said.



PHOTO/PAUL GONZALEZ VIDELA/The Herald

From left, dentists Lindsay Eastman, Douglas Jungman and dental hygienist Brett Muncie look over computer software displaying a detailed view of a patient's jaw.

The success rate of the computerized surgical process is "higher than 98 percent," compared to a 97-98 percent success rate for traditional implant surgery, Mosher said. Problems in both types of surgery usually stem from the patient not having enough jaw bone to hold the metal rods securely.

"The critical part of Teeth-In-An-Hour is patient selection. Not everyone is a candidate, although it's being marketed heavily out there," Misch said. "First, you have to have adequate bone to place the implants. With tooth loss, you also lose supporting bone. It's not unusual that patients may need bone grafting to build up the bone." Patients missing a single tooth also are not prime candidates for computerized surgery, dental specialists said. They are more likely to get a typical dental bridge or crown. "This could in theory apply to everyone, but not everyone needs this procedure," Eastman said.

The main drawback is the big bite the computerized surgery takes out of your wallet. A set of upper or lower teeth costs about \$25,000, a full mouth about \$50,000. Most dental insurance policies have maximum annual limits of \$2,000 or less. "The cost of this approach is usually higher than conventional implant dentistry," Misch said. "I price this 25 percent higher."

Eastman and Jungman said "the expense" is the drawback, but dental implants should last a lifetime, while dentures or dental bridges may fit properly for 10 to 15 years. "People don't squabble about spending that type of money for buying a car," Eastman said. "But this is something you have 24/7 for the rest of your life."

In the traditional dental implant process used for decades, the patient's gum is cut open and a gum flap is moved aside to give the surgeon access to inspect and drill into the jaw bone and place metal rods that act like teeth roots. Then the gum tissue flap is stitched back into place. That is more painful, causes swelling and requires months of healing while implanted rods fuse to jaw bone, Eastman explained. Then there is a second surgery for attachment of an extension to each implanted rod. After more healing comes mounting of the crown or replacement teeth.

But the Nobel Biocare computerized system allows the patient's jaw, including bone below the surface, and a denture wax impression to be photographed in a series of X-rays through a CAT scan, officially named a computed tomographic scan. Those CAT scan pictures are digitized in Nobel Biocare's computer software, which transforms the data into computerized three-dimensional models of the patient's jaw and future replacement teeth. "Once we have the 3-D model, we can literally look on the computer at all the anatomical structures important for an implant," said Brett Muncie, Eastman's computer specialist and a dental hygienist. "Is there enough bone? Is there any interference with the patient's anatomy? "It's like having X-ray vision."

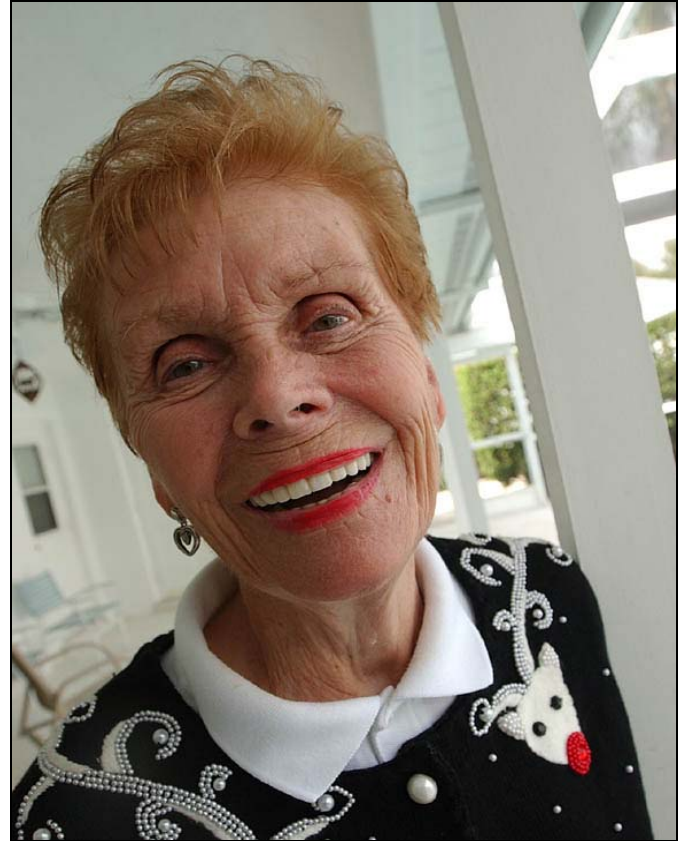
Eastman and Muncie work together to plan and conduct a patient's implant surgery on the computer. They determine how many titanium rods will be implanted, their location in the jaw bone and the depth and angle each rod will be inserted. Then they place computerized rods into the computerized jaw bone. The completed surgery on computer is digitally transferred by modem to Nobel Biocare's robotics laboratory in Sweden, where the customized surgical template is made. "Holes in the mold are the exact placement of the implants into the jaw," Muncie said. "It's a drill guide."

By the time the computerized surgery is done and the surgical template is produced, a laboratory has manufactured the acrylic or porcelain replacement teeth based on a denture impression in wax. The dental specialist uses the template to guide insertion of the rods and then immediately attaches the set of replacement teeth to the rods. There is no intermediate step of attachment of extensions. "With this, there are no incisions (in the patient's gum), no sutures. It is called flapless," Muncie said. "It (the implant) goes straight in the gum tissue, right into the bone. "It's a lot less painful, a lot less recovery time," he said. "There is reduced chance for infection. And it's a lot more accurate placement (of the implants)."

Eastman put it this way: "Now when we put the implants in, not only is it better cosmetically, a better fit, but now we can put an implant in when there is not much bone. This guided surgery is safer for the patient."

Bakke called the surgical process "incredible" and virtually painless. "It's literally 30-minute surgery, and post-operative sensitivity is nothing," Bakke said. "A couple aspirin or Motrin and you're done. The reason is you are not flapping any (gum) tissue."

Misch said he believes there is more than a lack of incisions into gum tissue that explains why patients feel less pain with the Nobel Biocare system. "I think it's the euphoria of getting their smile that same day that overrides some of the pain," he said. "I think there is a big psychological component to it."



PAUL GONZALEZ VIDELA/The Herald
Georgia Christie shows off her new permanent teeth Friday at her home in Parrish.

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