



New teeth in 60 minutes

After decades of development, hour-long procedure implants itself in Columbus

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Ancient Egyptians who lost their teeth were not ordained to go toothless for the rest of their lives. They could get dental implants.

Sea shells were literally hammered into the jaw to replace missing teeth, without Novocain of course, but according to Egyptologists, it worked. Slots were made into the bone and the shells were pounded in like little wedges.

Today, dentists use basically the same technique to give patients permanent teeth — they place anchors in the jaw for new teeth.

By modern standards, the history of implants goes back some 35 to 40 years.

In the U.S., blade-shaped

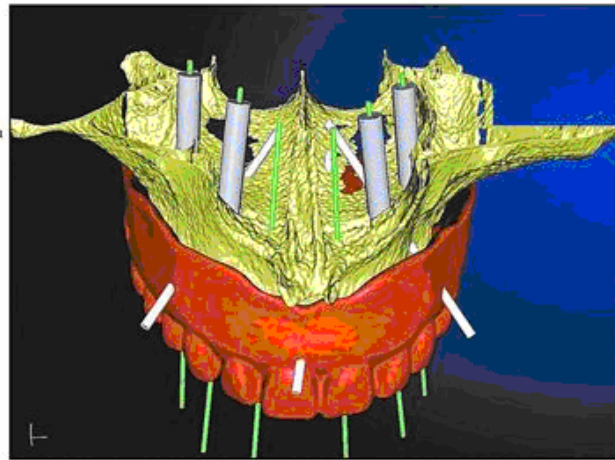
implants were placed into the bone, then posts were attached to the blade with bridgework affixed on the posts later.

Meanwhile, in Sweden, **Dr. Per Ingvar Branemark** was placing a cylinder into the bone, leaving it submerged below the gum for three to six months while the healing matured and the bone attached to the implant. The dental prosthetic (tooth) was then affixed to the implanted cylinder.

Branemark brought his research to the United States around 1980. It proved to be an overwhelming improvement to American methods. In turn, American technology quickly adopted these principles.

Currently more than a half-million dental implants are being surgically placed annually, but as fast as this field of dentistry is growing, the majority of potential dental implant patients is unaware that this treatment exists.

Now an even more improved method of implants is finding its way into the dental chairs. It's called "Teeth in an Hour," and it literally brings a patient into the dental chair and an hour later,



This 3-D image drawn from a CT scan shows the doctor information about a patient's mouth, such as bone loss, thickness of muscle, strength of the jaw and location of sensitive nerves.

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the patient walks out with a new set of permanent teeth.

| a local procedure |
Dr. Robert A. Vasquez, D.D.S., P.C., will be the first dentist in Columbus to offer the new procedure, and he's excited about it.

Seated in a small office staring at a computer, "See that," he says, pointing to an

image on the screen. "Isn't that something?"

What the local periodontist is viewing is a 3-D view of a patient's mouth.

"With this, I can see everything," he says. It takes a lot of the guesswork out of doing dental implants.

Before he does implants, he explained, he wants to know about bone loss, thickness of muscle, strength of the jaw and where sensitive nerves might be.

"Before this, I would have had to cut and peel back gum tissue," he says.

Now, no blood, no pain. It's an ICAT machine that produces the image — much more advanced than a regular X-ray — for him. He doesn't possess the expensive device himself and sends patients to Atlanta to get the pictures taken.

"I really only need it for the more complex cases," said Vasquez. "We get the CT scan

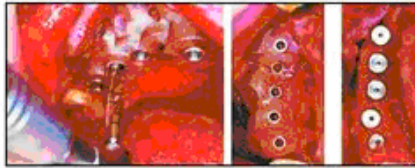


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The CT scan images help in the building of a template that indicates the location and angle of where drill holes should be.

The doctor uses the template to drill holes into the patient's jaw, then inserts screws, followed by prosthetic teeth. The patient's dentist then places crowns on the new set of teeth.

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done, send it to Noble Biocare and they build a template that has the location and angle of the drill holes. They send that back to me, I put the template over the patient's jaw, drill the holes, insert the screws, put the teeth in over the screws and once the patient's dentist is finished, the patient has a new set of permanent teeth."

He has several patients lined up to have the work done. He's now waiting on coordinating the procedure with the patients' dentists who, once the teeth are in, will place the crowns on them.

| **a viable alternative**

These implants are permanent, unlike dentures or crown or bridge restorations.

The price is a problem. Implants can cost a couple thousand dollars per tooth.

"It just depends on how badly you want something like this," says Vazquez.

A "full rack" could cost \$30,000. "But think about it. What does a new car cost today? How long will you have it? Here, patients are getting teeth that will last for the rest of their lives. It will improve their health, their looks and their outlook on life," he said.

He said that while implants aren't always covered by insurance, "it's a quality of life issue." Patients with implants can chew what they want, don't have to worry about their smile and, most importantly, the implants stimulate the jaw and keep it healthy, Vazquez said. "If there are no teeth in the jaw, it deteriorates to the point that you can't even put dentures in."

According to a U.S. surgeon general report on oral health in 2000, toothlessness is an under-reported health concern in the nation with more than 20 million people missing all of their natural teeth and 30 percent of the U.S. population over age 55 fully toothless in one or both jaws. The study says that Americans lose an average of 12 teeth by age 50.

Traditionally, dentures have replaced a full set of teeth, and bridges for a smaller number.

Dental implants, Vazquez says, are better.

"Dentures can affect speech," says Vazquez. "They also affect diet because there are some foods that can be difficult for a person to chew. If the teeth don't fit right, they can cause a lot of frustration to the wearer."

A dental implant is an artificial tooth root, a post that a periodontist plants into the jaw to hold a replacement tooth or bridge. Titanium is used for the implants since the body's immune system doesn't recognize it as a foreign object. There is no rejection. The bone grows to the titanium, creating a strong foundation.



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With a new procedure for dental implants, a patient who was completely toothless can walk away with a new set of permanent teeth after about an hour of surgery.

Vazquez says that implants don't injure the quality of the adjacent teeth as a bridge does.

"In order to support a bridge," he says, "other healthy teeth are altered, grinded, to support the bridge. That can lead to trouble down the road. With implants, that isn't necessary."

Mnijeh Neshat is a 44-year-old Raleigh, N.C., resident who had all her teeth removed 13 years ago due to the threat of damage from radiation cancer treatment on her jaw bone.

Neshat received dentures shortly after and was just happy to be alive and cancer-free. However, living with dentures quickly became "a nightmare" for Neshat because they were ill-fitting, preventing her from eating a healthy diet. Also, without stimulation from teeth over the years, Neshat lost significant bone mass in her upper and lower jaw. She received four dental implants in her bottom jaw nine years ago to relieve her of some of her pain when chewing and restore function.

Unfortunately, Neshat had already lost too much bone on her top jaw. To receive implants would have required a bone graft from her hip, which she was unwilling to do. Neshat had no other options other than to suffer with dentures until technology finally caught up with her.

Last year, Raleigh-based **Dr. Kevin Neshat**, Mnijeh's son, became one of the first dentists in North Carolina to be trained on Nobel Biocare's "Teeth in an Hour" procedure. His mother would be his first patient using the procedure.

When she got home, she was back to eating the way she had before having the teeth removed prior to the cancer treatment. "There was no recovery period," she said.

One of the side benefits, she said was she could taste food again.

"The dentures covered too much of my mouth to taste. But now I can."

the abcs of one-hour implants

- **The patient visits** the dentist and undergoes a routine CAT scan.

- **Nobel Biocare software** turns the CAT scan image into a 3-D computerized

model the dentist uses to plan the entire restoration, identifying the best location to place the implants, and creating the model prosthesis.

- **Based on the**

computerized model, prosthetic teeth are created along with a template identical to the patients' jaw providing the dentist with a guide for precisely placing the implant.

- **The patient returns** for a single, one-hour surgery under general anesthetic in which the prosthetic teeth are placed.

— as outlined by Noble Biocare, which pioneered the procedure



the benefits of one-hour implants

- **The patient** no longer has to endure weeks of visits to the dental chair or have uncomfortable molds of their mouth taken.

- **They are immediately functional** and, using a special all-ceramic material, more closely resemble natural teeth.

- **They are permanent,**

unlike dentures or crown and bridge restorations.

- **The guesswork** is removed for dentists; the computer generated guide enables them to place the implants in the most ideal location to foster integration with the jaw bone and keep the jaw structure in place.

Noble Biocare