

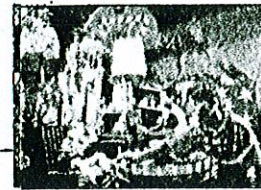
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# SciTech

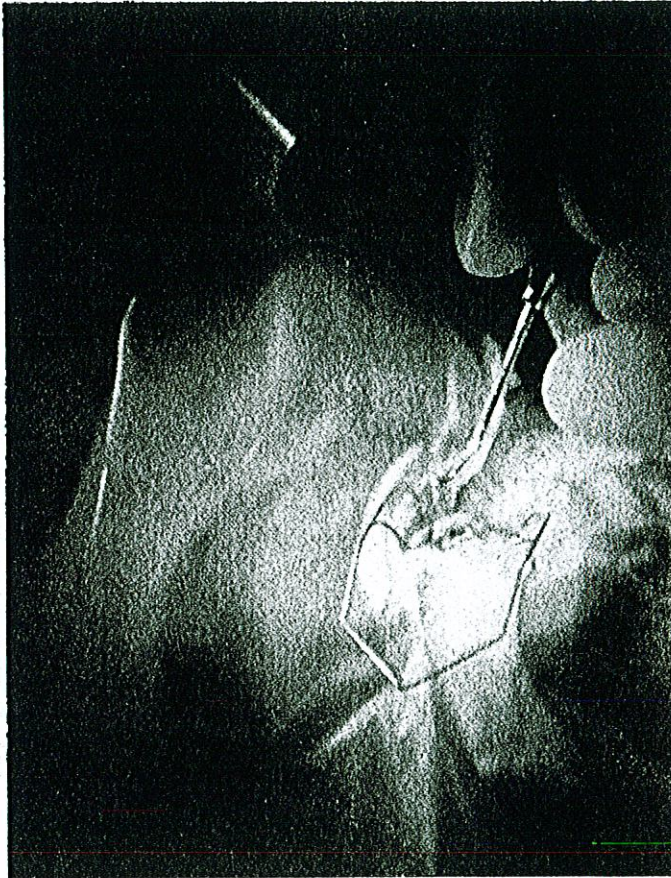
THE TAMPA TRIBUNE

## World of science

"Beakman's World on Tour," an interactive exhibit that enlightens young people to the wonders of science, is on view through



May at the Museum of Science & Industry, 4801 E. Fowler Ave., Tampa. For details, call (813) 887-8300.



Photos from Updegraff Laser Vision

In the LASIK procedure, the doctor cuts a thin layer of the cornea - about 30 percent of its thickness - forming a flap and folding it back. A laser reshapes the flawed, internal tissue of the cornea, then the flap is placed back over the eye and allowed to heal without stitches.

By KURT LOFT  
 of The Tampa Tribune

ST. PETERSBURG - Doctors call it "flap and zap," and pleased patients think of it as "look and finally see."

This innovative surgical technique is revolutionizing eye care, and could be the choice for millions who fuss over wearing glasses or contact lenses. Called LASIK - laser-assisted in-situ keratomileusis - the technology uses an excimer laser to sculpt deformities of the cornea, with almost no pain and a quick healing time.

The U.S. Food and Drug Administration approved the excimer technique for nearsightedness in 1995, and late last year gave the green light on the more complicated operation for farsightedness. Although equipment is expensive and the training extensive, LASIK soon will be commonplace, says Stephen Updegraff, medical director of Updegraff Laser Vision in St. Petersburg and one of the country's top LASIK specialists.

"I think we're going through evolutionary changes in our thinking of refractive eye surgery," he says. "We're getting to a point where patients are looking at this not so much as a luxury, but asking when they're going to have it done."

At least two procedures apply computer controlled pulses of laser light to reshape the eye and correct nearsightedness, farsightedness and astigmatism. One is PRK, or photorefractive keratectomy, which reshapes the cornea surface. LASIK differs in that it sculpts the inner part of the cornea. LASIK surgery costs about \$2,200 per eye and takes less than half an hour.



After LASIK surgery, patients are required to wear protective goggles for a day or two to prevent damaging the eye.

LASIK's ultraviolet excimer laser uses argon and fluorine gases to create a relatively cool beam. It breaks molecular bonds in a process known as photoablation. The key to excimer lasers is precision. A single pulse can remove tissue no more than 1/200th the width of a human



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hair.

Here's how the procedure works:

The doctor numbs the patient's eye with drops and places a suction ring over the eye to secure it and maintain pressure. The patient stares at a beam of light to keep the eye still. Using a device called a microkerator, the doctor cuts a thin layer of the cornea - about 30 percent of its thickness - forming a flap and folding it back. The laser reshapes the flawed, internal tissue of the cornea, then the flap is placed back over the eye and allowed to heal without stitches.

"We bypass the epithelium [the cornea's protective outer layer] so it doesn't know anything has happened," Updegraff adds. "We're lifting up the top 20 sheets of the cornea, then laying them back down. And because the laser doesn't generate heat, it can sculpt extremely thin layers of tissue."

Doctors hope to make the technique even more precise when new computer technology links a topographic image of the patient's eye directly with the laser beam. The system will choose the best combination of diameter, power and location for the laser beam.

"None of the other eye techniques have replaced the impact of the laser," Updegraff says. "It's really huge. And as we move along, it's going to get larger and larger."

One advantage of LASIK over other procedures is there is no scarring of the inner cornea, a reason doctors recommend the treatment for some people with severe sight problems. About 98 percent of patients who have undergone excimer laser surgery enjoy 20/40 vision or better. However, the FDA warns the final result of any laser eye surgery depends on how the patient heals, and no two people heal the same.

Although the risk of a vision-threatening complication is less than 1 percent, experts say, they strongly suggest that anyone considering LASIK review a doctor's records and training and talk to people who have undergone the procedure. LASIK surgery is relatively painless, and patients are only required to wear protective goggles for a day or two to prevent damaging the eye.

Max Logan, an afternoon disc jockey at WXTB, 97.9 FM, had LASIK surgery in January and says it changed his life.

"I've had glasses since I was in the third grade and my vision was horrible - I had Coke bottle glasses," he says. "Now, it's incredible. I can't explain how amazed I am by what I can see."

# V I S I O N Q U E S T



A relatively new surgical procedure for correcting poor eyesight may soon become commonplace.

## Benefits of LASIK

- Technique is precise and predictable
- Procedure is fast (less than 30 minutes)
- Quick recovery time
- Low risk of infection
- Low risk of scarring
- Minimal discomfort
- All corneal layers are preserved.
- Offers a range of correctable prescriptions