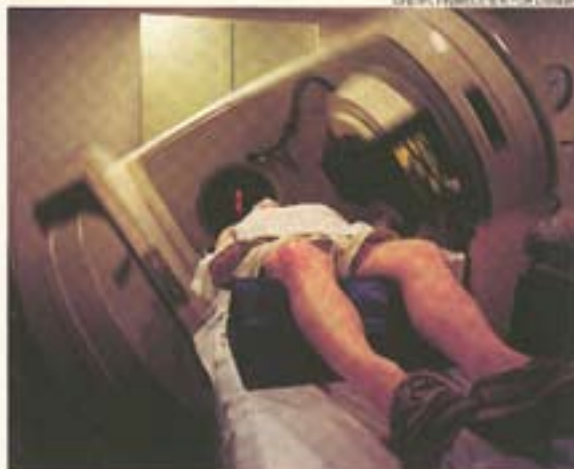


NEW THERAPIES

No knives, no needles

Chances are that prostate cancer patient Marvin Gayle wouldn't be beating his buddies at golf several times a week and enjoying a healthy sex life if he'd gone ahead with the operation scheduled for late May. "I had set a surgery date, but my wife swayed me against it. I'm full of life and vinegar, and she thought she'd have an old man on her hands," says the 74-year-old retired attorney in Encino, Calif. Instead, Gayle opted for a new procedure, intensity modulated radiation therapy (IMRT), one of several types of noninvasive technologies being used to destroy cancers and benign growths, and to treat other conditions.

Noninvasive procedures involve no knives, needles, or anesthetics. Hospital stays are short or nonexistent, there's no external scarring, and there are no drug side effects. Leaps in magnetic resonance and ultrasound imaging, radiation, and hot and cold laser technologies are driving this change. Doctors are using these techniques primarily with cancers of the prostate, breast, brain, and skin, as well as to treat vision problems.



G. J. O'Brien undergoes IMRT treatment for thyroid cancer at St. John's Hospital in Santa Monica, Calif.

IMRT, a radiation-based therapy, has only recently been used as a prostate-cancer treatment. Older radiation techniques use four to 10 large beams to trace a path through healthy tissue to the walnut-shaped prostate in the lower pelvis. In IMRT, a machine rotates around the body, sending out thousands of tiny "beamlets," much lower in radiation per beam. "They do very little damage as they pass through healthy tissue. But when

they all come together at the tumor, they combine to give a great deal of radiation," says Robert Wollman, a radiation oncologist at St. John's Hospital in Santa Monica, Calif.

CT scanning is used to pinpoint the location and perimeters of the prostate. At each of 42 follow-up treatments over two months, an ultrasound is performed to relocate the constantly shifting prostate gland. Gayle, who is more than halfway through his therapy, says the only side effects he has noted are increased bathroom trips and a bit of fatigue.

Not for everyone. Despite the benefits, some surgeons are skeptical. "There are still a lot of unknowns about the newer prostate therapies," says John Long, associate professor of urology at Tufts University School of Medicine. For some with

late-stage prostate cancer, IMRT would not be the best choice, agree Wollman and Long.

Scientists say the biggest challenge may be getting doctors to master the technologies and work with a diverse medical team. Gayle's treatments involve a physicist, radiation oncologist, and urologist, among others. "They are a great team. As far as I'm concerned, it's the best way to go," says Gayle.

—Mary Brophy Marcus