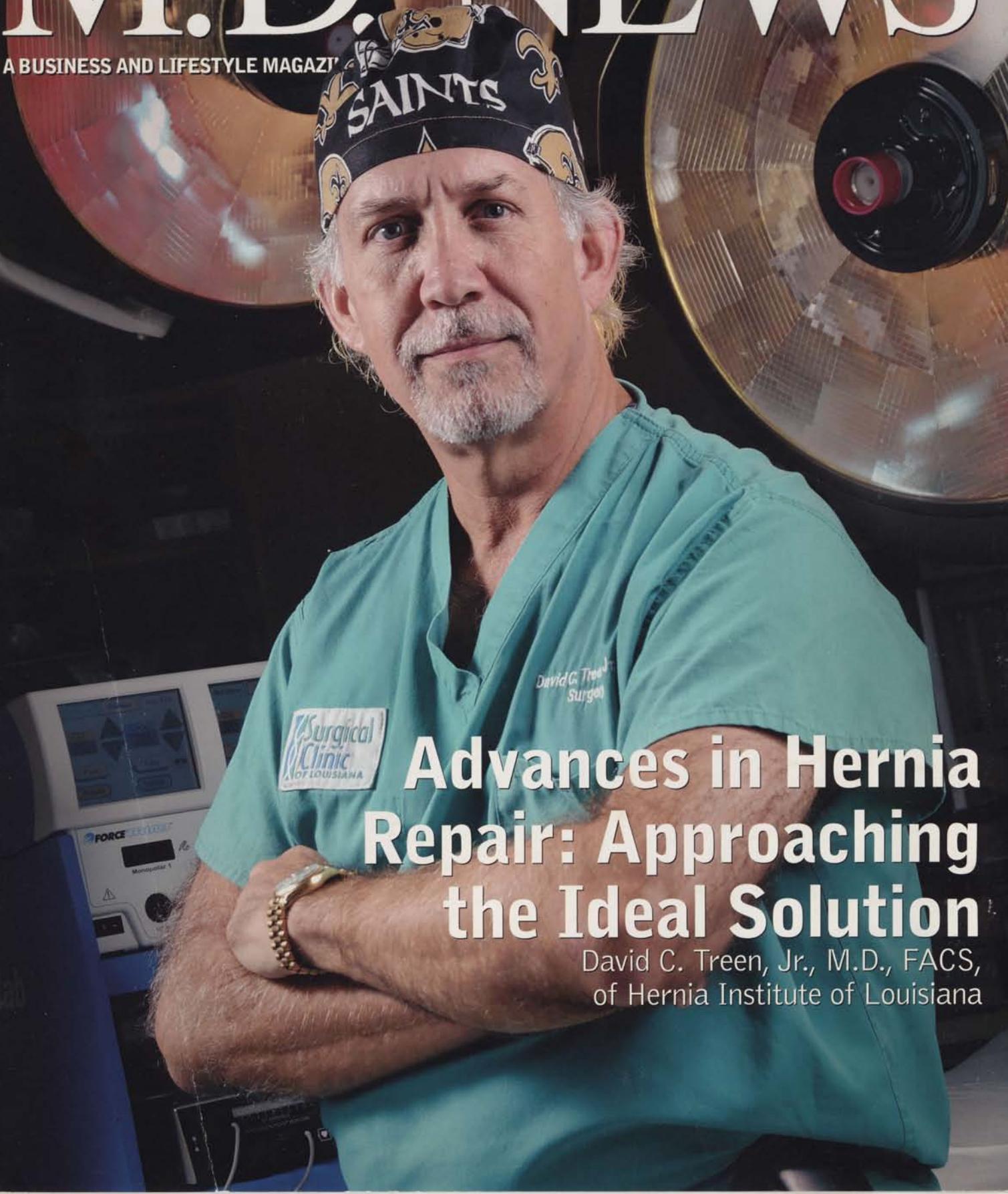


M.D. NEWS

A BUSINESS AND LIFESTYLE MAGAZINE



Advances in Hernia Repair: Approaching the Ideal Solution

David C. Treen, Jr., M.D., FACS,
of Hernia Institute of Louisiana

Advances in Hernia Repair: Approaching the Ideal Solution

David C. Treen, Jr., M.D., FACS¹, of Hernia Institute of Louisiana

By Madeline Vann

You know you're in New Orleans when . . . your hernia surgeon knows that trombone players are more likely to have a hernia than trumpet players!

"We've treated many of the French Quarter trombone players," says David C. Treen, Jr., M.D., FACS, founder of the Hernia Institute of Louisiana (HILA) located in the Surgical Clinic of Louisiana. He can reel off the usual suspects at high risk for hernias: those who are overweight or obese, laborers, people with previous abdominal surgeries, smokers and people who are born with collagen abnormalities or other congenital conditions that put them at risk. He also knows the quirks of his local patient base.

It is this passion for the details of hernia surgery that spurs Dr. Treen on in pursuit of excellence in hernia treatment.

Dr. Treen has performed more than 3,000 inguinal hernia repairs using the Prolene and ULTRAPRO Hernia Systems with zero recurrences.



PHOTO COURTESY OF THE HERNIA INSTITUTE OF LOUISIANA

"I founded HILA in 1999. At that time, there were a number of new and distinctly different techniques for hernia repair. Some seemed quite sensible while others lacked surgical foundation. It was apparent to me that the industry was rapidly evolving and it would be essential for surgeons to be deeply involved with the direction of the appropriateness of the innovations," he explains.

A PRIMER ON THE GROWTH OF HERNIA REPAIR INDUSTRIES

Dr. Treen says the hernia repair industry has expanded rapidly since he graduated from medical school at Tulane University 25 years ago.

"When the laparoscopic era hit about 20 years ago, surgeons were looking for other things that they could use the technique for, and they turned to hernia repair," says Dr. Treen, who admits he did his share of the procedures. However, he notes, "Early laparoscopic hernia repairs were poorly founded in science and mostly failures, but it did spur a lot of investigation into how we can do hernia repairs with laparoscopic technology."

Eventually, he abandoned the use of laparoscopic methods for repair of inguinal hernias, the most common type of hernia, but he and his colleagues by then were well on their way to greater innovations in the surgical management of hernias.

"Laparoscopy opened our eyes to anatomy we were not familiar with and emphasized the need for larger pieces of mesh than we had used before," he says, adding that laparoscopy is still used for incisional hernias and some large umbilical hernias.

THE EDUCATION OF A HERNIA EXPERT

When Dr. Treen decided to learn all he could about the current and future trends of hernia repair, he traveled far and wide.

"I wanted to meet inventors of new methods around the country," he recalls. "Some were surgeons and some were

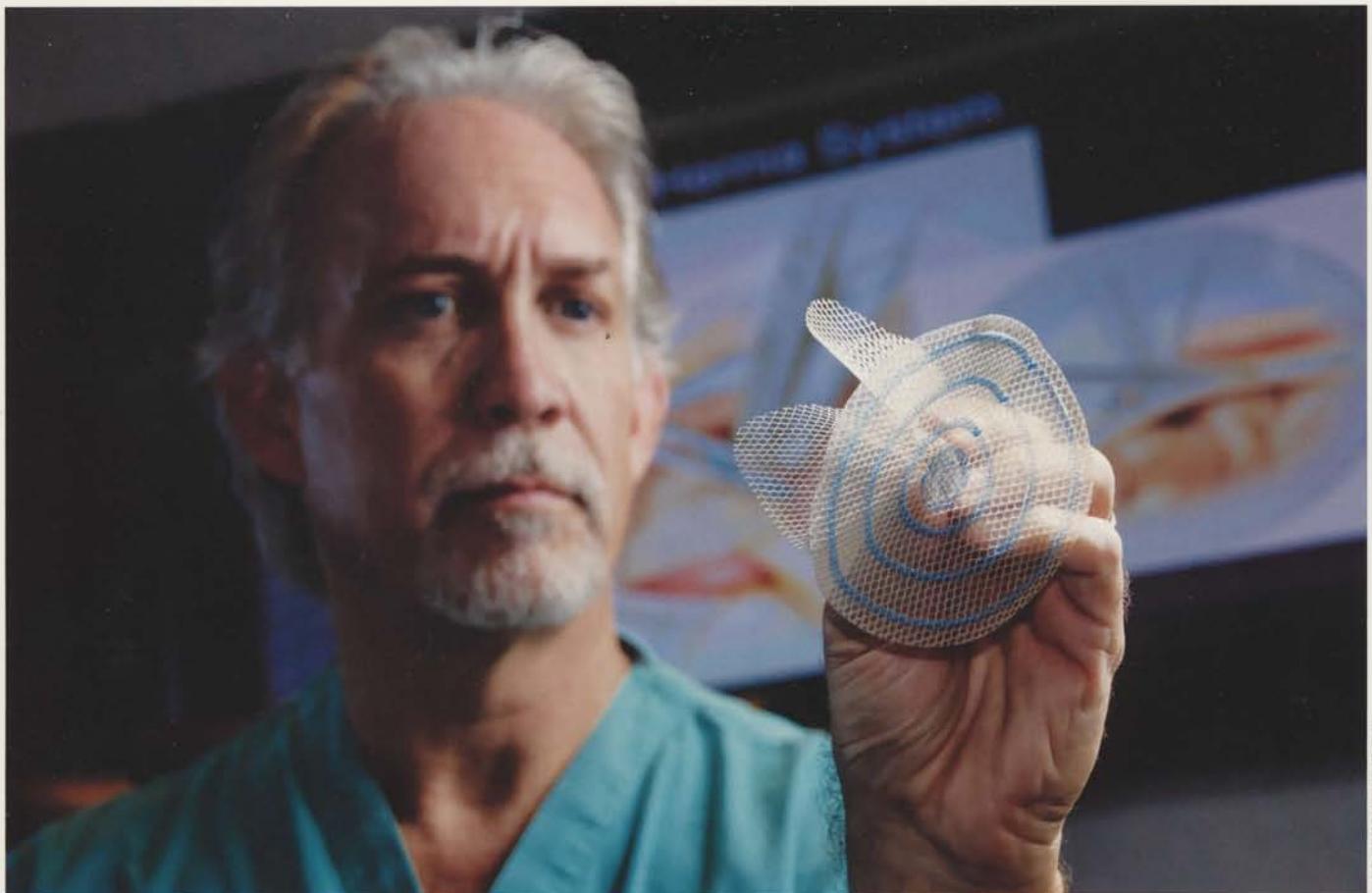


PHOTO BY FRANK AVNAMI

The ULTRAPRO Hernia System technique has the best reported recurrence rate worldwide.

industry leaders. I came away from that little expedition with the realization that only a few of these ideas had merit and others were clearly headed in the wrong direction. I wanted to be involved in refining the best methods and be involved with other surgeons as we shared our knowledge of the field."

After educating himself, Dr. Treen has committed himself to supporting the education of other hernia surgeons. He is a member of the board of governors for the American Hernia Society, which publishes the peer reviewed *The World Journal of Hernia and Abdominal Wall Surgery*.

INNOVATIONS IN HERNIA TREATMENT

Interested as he is in the total picture of hernia treatment, Dr. Treen is an advocate for comprehensive pain management.

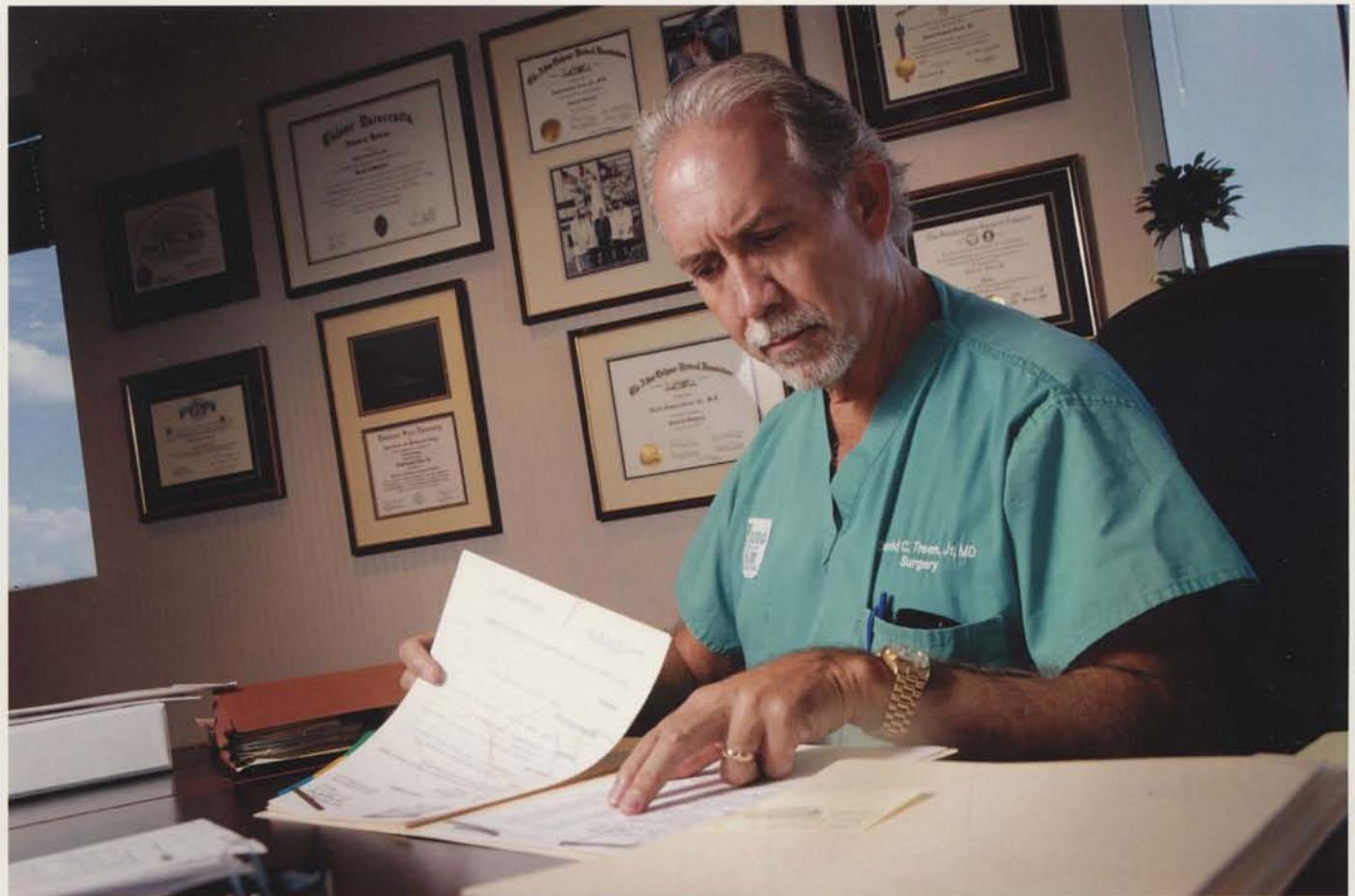
"Part of successful pain management is surgical technique," he explains. "We minimize tissue damage, avoid major nerves, and use fewer sutures."

Another aspect is the use of continuous infusion local anesthetic devices, which allow patients to go home with control over the pain in their incision for 48 hours. Dr. Treen prefers to use a pain-control catheter developed by I-Flow Corporation for this purpose.

Dr. Treen is always on the alert for new approaches to understanding hernia repair. "There is a lot of new research that is shaping the way we approach these problems," he says. For example, researchers are becoming increasingly aware of the role that collagen deficiency plays in creating a risk for hernias. "That has led to a whole new area of thinking and development around biologic mesh products," he says. "This is an exciting new field, still in its infancy. The early prototypes will be replaced by more defined and effective prototypes, so we are definitely watching the progress on this front."

Exploring the possibility for lighter and more flexible mesh products goes hand in hand with a more detailed understanding of the physiology of the abdominal wall, says Dr. Treen. In the early years, surgeons repairing hernias had little understanding of the dynamics of the abdominal wall to guide them. As repairs have become more subtle, with increased attention to repairing the various layers of the abdominal wall for optimal function, the field has developed a greater scope of knowledge.

"We've learned that the mesh we began using 15 to 20 years ago was stronger and heavier than was necessary, so there is now a trend towards lighter weight mesh products, which means they



Follow-up for all patients is reported to the Hernia Registry, a national outcomes database.

will perform better and be better tolerated, with less pain, by patients," he explains. "There are many, many more synthetic products that have evolved into these lightweight devices, mainly because it affords more than adequate reconstruction of the abdominal wall. There's been a major change in the thinking about these synthetic mesh products."

Using mesh makes a significant difference in the long term success of hernia repair. Without mesh, one in ten inguinal hernias required another surgery — but with the use of mesh, Dr. Treen reports recurrence is down to less than 1%.

Dr. Treen and colleagues use the ULTRAPRO Hernia System. "This is the newer version — lightweight, partially absorbable mesh prosthetic device that we have been using for the past 10 or 12 years. It is the lightweight variation of the Prolene Hernia System," he says. The ULTRAPRO Hernia System is a very flexible, three-dimensional device made out of a polymer, similar to that used in Prolene suture materials. It is constructed in two layers joined in the middle by a mesh cylinder.

"Recurrence rates for hernia repairs have ranged from

1-5%, to as low as 0.1% in most reported series with different techniques and different devices. This particular device was recently studied in an article published in an international hernia journal reviewing nearly 22,000 patients. The recurrence rate was 0.02%.

"Most patients who are going to have a recurrence will have it in the first year, and if they haven't had a recurrence within five years, there's an extremely low likelihood that they will have one," he says.

The difference is evident in other types of hernias as well.

"There is the temptation for many surgeons to repair umbilical hernias with sutures only, and it's been shown that this approach carries a 30% to 50% recurrence rate," he says. "Incisional hernia repairs are also a common problem, but repairing those hernias without mesh carries a 35% recurrence rate. Laparoscopic repair with mesh cuts that rate down to less than 5%."

Adding in newer technologies, such as tissue separating mesh devices, can reduce the rate of recurrence even further, he notes.

"The latest innovation for recurrent large incisional hernias is component separation technique. That affords the surgeon

the opportunity not only to repair the hernia but bring the abdominal wall muscle layers back into their normal position,” he says. Combined with mesh products, this restores a greater level of function to the patient, he adds.

“Lightweight mesh devices have been one of the most important innovations in this field,” he says. Biologic mesh is not far behind, but remains too expensive for use in the majority of cases.

The possibilities inherent in biologic mesh products excite Dr. Treen.

“I personally think that the solution for hernia is to be a clone-type system where we will actually grow collagen cells on mesh products to create an individually genetically-appropriate device for the individual patient,” he says. “That technology is just beginning to develop.”

Mesh products are a boon to the sports world as well, he observes. Even though they are not true hernias, Dr. Treen says the expertise he has gained over the years means he is well placed to repair sports hernias, the headline-grabbing pseudo-hernias that knock beloved athletes off their game for a while.

“There is still some debate as to what a sports hernia really is, but there’s increasing evidence that for a sports hernia, which

is really more of a musculoskeletal injury, surgical repair and mesh reinforcement can speed the recovery and lessen the likelihood of re-injury,” he says — knowledge that can keep everyone’s favorite field goal kickers and soccer players primed and ready to play.

EDUCATING THE HERNIA FIELD

All this change requires ongoing education for practicing hernia surgeons and aspiring medical students. Dr. Treen hosts surgeons on a regular basis who want to observe his techniques. These monthly preceptorships allow surgeons to spend a day or two at a center like Dr. Treen’s. Additionally, hospitals and surgeons offer mini-fellowships that allow others in the field to get hands-on and observational training in new surgical techniques.

“Since 1998, we’ve offered a variety of training opportunities for surgeons to learn more about these methodologies for abdominal wall reconstruction,” he says. Beyond that, he points out, “There are a lot of opportunities in the industry that support courses for surgeons to learn and to promote their products.”

Dr. Treen, who is a clinical associate professor of surgery at Tulane University’s School of Medicine, and faculty for the

Preoperative CT scans are essential for sports hernia and incisional hernia patients.

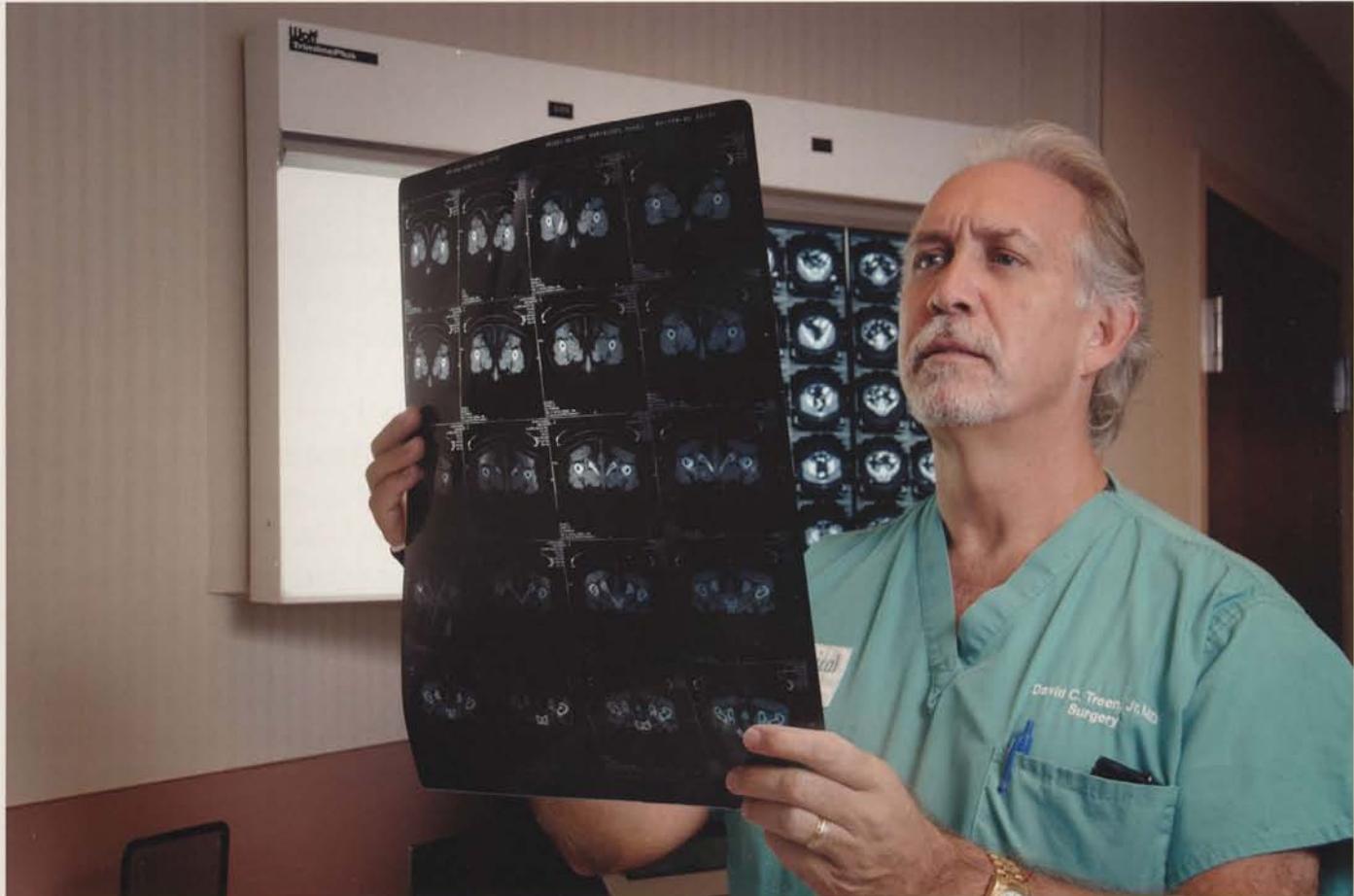


PHOTO BY FRANK AYAMANI

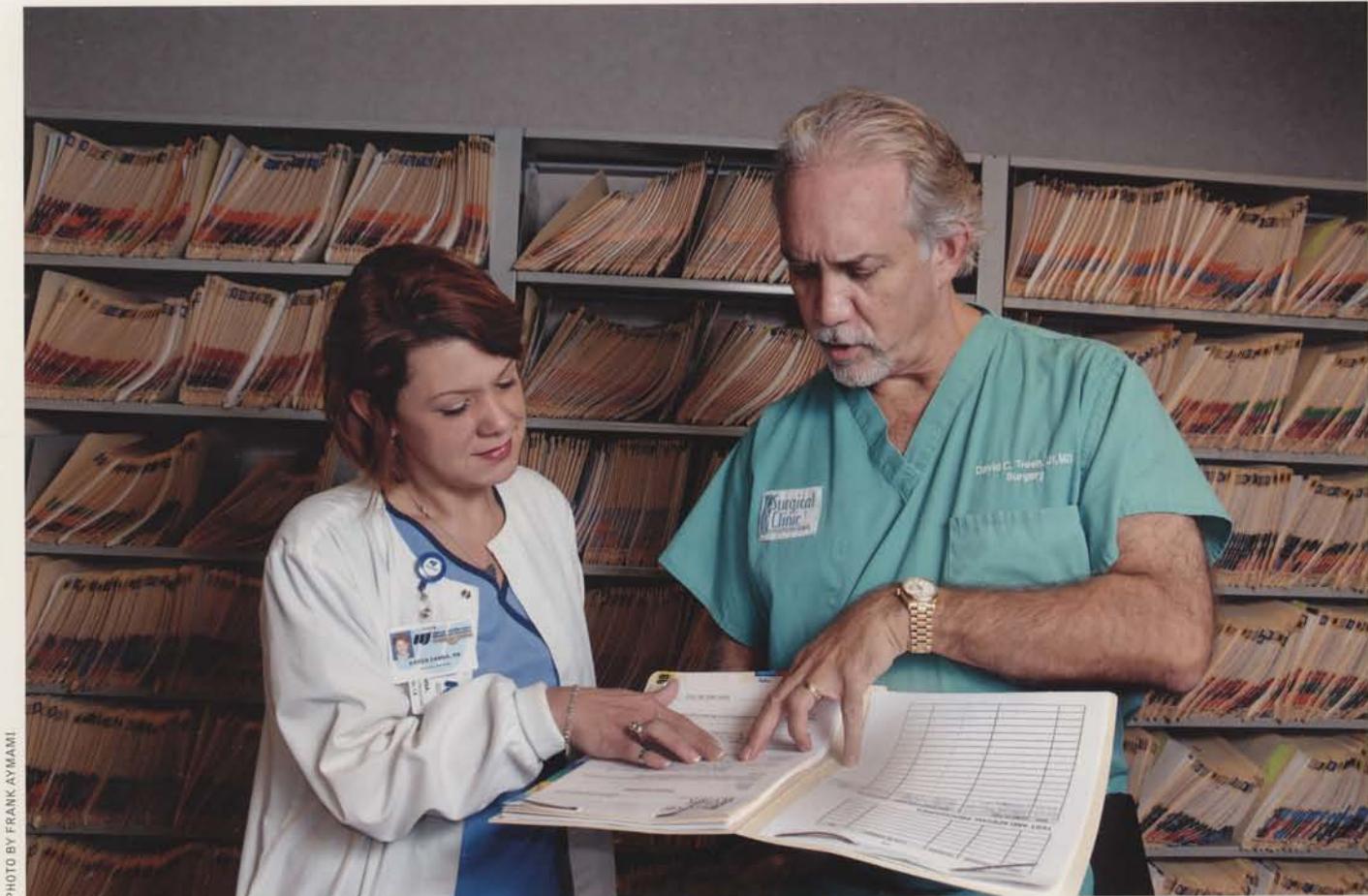


PHOTO BY FRANK AYMAN!

Patients are encouraged to participate in prospective clinical studies with five-year follow-up.

Tulane Advanced Laparoscopic Surgery Fellowship Program, is committed to educating surgeons. He is often a guest lecturer and grand rounds presenter at medical schools throughout the country, regularly presents at Masters in Hernia Repair Symposiums, and has given multiple telesurgery presentations to national meetings of the American College of Surgeons, the European Hernia Society and the American Hernia Society.

Dr. Treen is on staff at West Jefferson Medical Center.

WHEN TO REFER

Many doctors view inguinal hernias as requiring a "watchful waiting" approach, rather than an immediate referral. Dr. Treen disagrees.

"I personally think that's doing the public a disservice to suggest that putting a hernia repair off is in their best interest," he says. "It is clear to me that repairing a hernia early after diagnosis affords the patient greater opportunity for a lasting repair."

Even after surgery, Dr. Treen follows his patients regularly for up to five years, in part so that he can learn more about the long-term results of the hernia repair techniques he uses.

Many patients may also be eligible for clinical trials through his clinic, he says.

Dr. Treen encourages referring physicians and patients to do their homework about hernia repair.

"We're in the Internet age, and the Internet is probably the easiest way for patients to gain information about the diagnosis of hernia and to seek surgeons who are experts in the repair of their type of hernia," he says. The American Hernia Society is one of many organizations that provides information for patients. He recommends finding surgeons who are fellows of the American College of Surgeons.

"Membership in the American Hernia Society is not necessary, but experience is important because surgeons need to have a variety of techniques at their disposal to repair hernias," he says. Each patient, even those who share an overall diagnosis, will require a slightly different repair. "It's important that a surgeon have the experience and knowledge to individualize repairs to each patient."

Dr. Treen makes it his business to have that breadth of knowledge and experience so he can repair any hernia, be it congenital, sports, or trombone-induced, that comes through his door.

For additional information, please contact us in Marrero, LA, at (504) 349-6860. ■