

POST-OP



Advancing Minimally Invasive Oncologic Surgery *First Use of New Treatment for Pancreatic Tumors, Performing Surgery at the Cellular Level*

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Introducing Our New Full-Time Faculty
– Colorectal Surgeon
– Podiatric Surgeon

Our New Smithtown Office Is Now Open

New High-Risk Surveillance Program for Breast Cancer

New Director of Reconstructive Breast Surgery Appointed

Genetic Research Aimed At Biologic Coronary Bypass

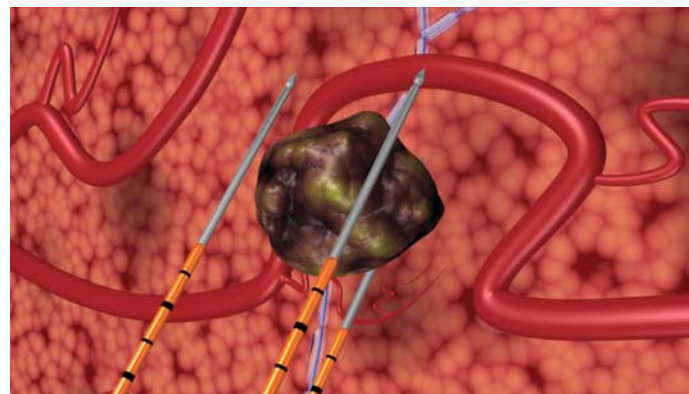
Conducting New Clinical Trials To Advance Surgical Care

General Surgery Residency Gains Continued Accreditation

Pediatric Surgery Lectureship To Honor Dr. Cedric Priebe

Offering CME Credits

Division Briefs & Alumni News



IRE kills tumor cells without causing collateral damage to adjacent tissue.

The Department's Upper Gastrointestinal and General Oncologic Surgery Group last December performed a history-making pancreatic procedure at Stony Brook University Medical Center, utilizing irreversible electroporation (IRE), a new minimally invasive surgical technique that selectively

kills tumor cells by using electrical fields to make holes in cell membranes.

Our utilization of the newly developed IRE technology to treat a patient with unresectable pancreatic cancer constitutes the first use of IRE tumor ablation to treat the typically fast-growing

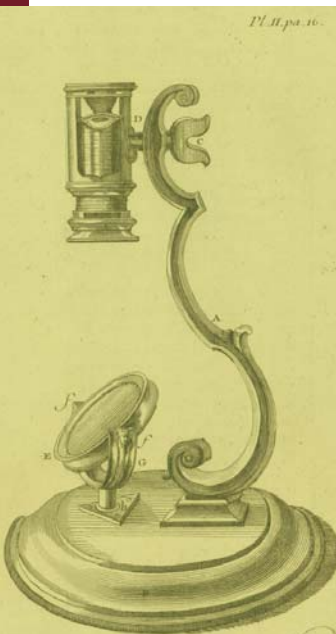
and fatal cancer that occurs in the pancreas.

Kevin T. Watkins, MD, assistant professor of surgery and chief of upper gastrointestinal and general oncologic surgery, performed the IRE procedure in combination with a minimally invasive pancreatic resection, which in his experienced hands was done without event.

Dr. Watkins described the promising post-op news:

"Our first IRE patient had her six-week follow-up PET scan in early February, and the initial report showed no activity, making her a radiographic complete response at this point.

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Dr. A. Laurie Shroyer Named Vice Chair for Research

Advancing Scientific Knowledge To Improve Patient Care

We are very pleased to announce that A. Laurie W. Shroyer, PhD, MSHA, has joined our faculty as professor of surgery and vice chair for research. In the newly created position, Dr. Shroyer will work closely with the Department's faculty and staff team members to integrate basic, translational, and clinical science research endeavors.

"The success of our research enterprise is the key to our success as an academic department. Dr. Shroyer's background and experience are ideally suited to advance this effort," says Todd K. Rosengart, MD, professor and chairman of surgery. "She will be introducing a number of new initiatives to build an enhanced research infrastructure in the coming months."

A nationally recognized clinical science researcher, Dr. Shroyer originally joined the School of Medicine, in 2007, as professor of preventive medicine in the Division of Evaluative Sciences.

National figure in clinical outcomes research and in translational and clinical science education joins our faculty.

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Advancing Minimally Invasive Oncologic Surgery

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“Hopefully, she’ll have a durable response, which only time will tell, but from a local disease standpoint, the technology did just what we had hoped.”

The combination of minimally invasive surgery and IRE allows for faster recovery with less tissue injury and, it is hoped, a better long-term outcome. At a minimum, patient quality of life should improve in the near term.

IRE is a new minimally invasive surgical technique that potentially can eliminate soft-tissue cancer tumors without collateral damage to surrounding healthy tissue.

The high-tech system that generates IRE, called NanoKnife, is approved by the Food and Drug Administration (FDA) for the ablation of soft tissue. It is currently being used for lung, liver, prostate, and kidney tumors, as well.

Dr. Watkins hopes to develop national trials approved by the FDA to demonstrate the effectiveness of this technology. At present, IRE is reserved for patients who do not have good standard treatment options.

IRE technology allows for extreme precision. While targeted soft-tissue cells are killed, blood vessels and other important structures in the area remain functional. The body is able to naturally rid itself of the dead cells. In regenerating organs, such as the liver, the dead cells are replaced with healthy cells.

IRE technology does not generate heat or cold, which potentially could damage normal adjacent tissues. This feature adds considerable value to it, together with its ability to selectively induce cell death on soft tissue.

CELLULAR SURGERY

Electroporation is the process of using brief and controlled electric pulses to open microscopic pores in a targeted area. By increasing the number, strength, and duration of electric pulses, electroporation can be made permanent, or irreversible.

After IRE, the pores in the cells remain open permanently. This causes microscopic damage to the cells, and they die.

IRE promises to be a major advance in cancer treatment, as it can selectively kill tumor cells while leaving critical structures such as nerves and blood vessels intact.

NanoKnife—the system used to achieve IRE—is not really a knife at all, but yet another new use of nanotechnology, the science of dealing with particles and dimensions down to the atomic level.

The NanoKnife system comprises needle-like steel probes (n = 1-6) with an electrical generator and a footswitch to operate it. The probes are single-use disposable electrodes.

Using Robotics to Remove GI Tumors With Minimally Invasive Surgery

More patients with complex tumors of the upper gastrointestinal (GI) tract are benefiting from our use of other recent advances in minimally invasive surgery, including robotically-assisted surgery.

Using the new robotics with minimally invasive surgery to remove tumors of the upper GI tract further demonstrates our commitment to excellence in patient care, and also to the development of the best ideas in medicine, helping to lead the field of surgery with new advances.

Our surgical oncologists are among the very few surgeons nationwide performing robotically-assisted pancreaticoduodenectomy, known as the Whipple procedure, to remove pancreatic tumors and other types of GI tumors.

The Whipple procedure is one of hardest GI procedures to perform, either by means of conventional open surgery, or by the minimally invasive laparoscopic approach.

Performing this procedure successfully with the robot is a significant surgical feat from the technical point of view, and it offers patients considerable benefits.

Kevin T. Watkins, MD, chief of our Upper Gastrointestinal and General Oncologic Surgery Group, says that in general the new minimally invasive procedures using robotics offer patients the possibility of diminished postoperative pain, less scarring, fewer complications post-surgery, and earlier discharge from the hospital.

The new approach may also help patients heal quicker, which may be crucial if they need to undergo additional treatment such as chemotherapy or radiation.

During the Whipple procedure, a portion of the pancreas—the first portion of the intestine and the last portion of the bile duct—is removed to treat tumors of these organs.

Despite the laparoscopic instrumentation used in the minimally invasive approach to performing the Whipple, the surgeon is often not able to complete the procedure effectively enough, particularly the reconstruction of the intestinal system.

The use of the da Vinci surgical robot allows reconstruction to be performed accurately and in a more minimally invasive way. At Stony Brook, increasing numbers of patients with cancer are being treated with surgery using robotics, and are benefiting from this new advance in care.

The “nano” aspect of the IRE procedure is that bursts of electricity create infinitesimal holes in the walls of the cells of the targeted area, causing cancer cells in this region to die naturally and be normally discarded by the body.

As one of the most important new soft-tissue tumor ablation tools, IRE technology offers

certain advantages over other technologies—advantages that can both make the procedure easier for patients to tolerate and potentially lead to better results.

Because of its precision, IRE may be able to eliminate an entire tumor, leaving patients cancer-free. This is the hope offered by this new form of surgical ablation.

For consultations/appointments with our specialists in upper gastrointestinal and general oncologic surgery, please call (631) 444-8086.