Cancer treatment gets innovative and integrative.
Innovation in cancer treatment

By Guy Petruzzelli, M.D., Ph.D., MBA, FACS
PHYSICIAN-IN-CHIEF, CURTIS AND ELIZABETH ANDERSON CANCER INSTITUTE

Innovation is the process of moving forward, introducing something new, transforming the way that things are done. When fighting cancer, innovation can improve treatments, lessen side effects, and extend lives.

At the Curtis and Elizabeth Anderson Cancer Institute (ACI) at Memorial University Medical Center, we pride ourselves on bringing the most innovative treatment techniques to Southeast Georgia and southern South Carolina. Whether it is robotic surgery, intraoperative radiation therapy, 3D mammography, or electric tumor-treating fields, we do our best to stay on the forefront of cancer innovation.

The National Cancer Institute receives a budget of approximately $5 billion per year to advance the study of cancer. In 2013, it spent 70.3 percent of that budget on cancer research to seek out newer, more innovative treatments. We’re definitely making progress. In the last two decades, we’ve learned so much about cancer and the way it functions in our bodies. We’ve learned how to prevent many types of cancer and we’ve mapped specific genes that may cause cancer. As a result, we have more cancer survivors alive today than ever before in history.

Now, we must adapt our treatments to meet survivors’ long-term needs. This includes addressing survivorship issues such as stress or anxiety. We now know that integrative therapies to address a person’s well-being are a vital part of the treatment process. This issue of Inside the ACI will highlight both our innovative and integrative cancer-treatment techniques.

I look forward to the cancer breakthroughs we will see in the coming years. As Steve Jobs once said, “Innovation distinguishes between a leader and a follower.” At the ACI, we want to be a leader in all aspects of cancer care.

We have more cancer survivors alive today than ever before in history.
At the Breast Imaging Center at Memorial University Medical Center, we believe in providing the most effective technology for every woman, every time. All of our mammography equipment uses 3D imaging. This allows us to see more detail and detect invasive tumors earlier. It also reduces the risk of unnecessary call-backs and further testing.

The new technology produces 3D images of the breast tissue in one-millimeter slices, providing greater detail than traditional 2D mammograms. The radiologist can scroll through the slices like pages in a book and rule out issues such as overlapping tissue that may have been mistaken for an abnormality.

At the Breast Imaging Center, services are provided by the region’s only fellowship-trained mammographer, a radiologist, a board-certified medical physicist, and nationally certified imaging technologists. We are open six days a week to better serve our patients. Appointments are available Monday through Friday from 6:30 a.m. to 4:30 p.m. and Saturday from 8 a.m. to 3:30 p.m.

Call 912-350-PINK (7465) to schedule a 3D mammogram.
Integrative therapies help people find calm in the chaos

It happens when you least expect it. Life is moving along as planned, then suddenly you’re knocked completely off balance. That’s what happened to Cynthia Murphy in September 2013. She went to the Breast Imaging Center at Memorial University Medical Center for her annual mammogram. And there it was – a suspicious spot on her breast. She was called back for more imaging and a biopsy. Within 24 hours, Murphy’s whole world changed. She had breast cancer.

The next few days were a whirlwind of appointments, information, and decision-making for the 59-year-old. But then calm appeared in the chaos. Murphy was invited to participate in a massage therapy study at the Curtis and Elizabeth Anderson Cancer Institute (ACI) at Memorial University Medical Center. If she joined the study, she would receive six free massage therapy sessions. All that she had to do was assess how they impacted her stress levels.

“I took advantage of those massage sessions before and after my surgery, and it was great. It was so relaxing. It really did help my sense of well-being. It helped me feel more centered, more grounded,” said Murphy.

She had a lumpectomy and intraoperative radiation therapy at Memorial University Medical Center. The tumor was completely removed and the cancer had not spread to her lymph nodes. It was good news, and Murphy thought she was done with treatment. But the most difficult part of her journey was yet to come. Her oncologist suggested she take a genome test called the Oncotype DX. It assesses the risk of breast cancer returning and helps patients decide if chemotherapy is needed. Based on the results, it was recommended that Murphy receive four courses of chemotherapy.

“That was a shock. Chemo really scared me the most of all my treatments,” said Murphy.

Since the massage therapy had been so beneficial in coping with surgery, Murphy decided to try additional integrative therapies during chemotherapy.

Integrative therapy combines traditional Western medicine with complementary techniques that are known to improve relaxation, flexibility, sleep issues, stress, and pain management. The goal is to treat not just the physical body, but the whole person.

“Integrative therapies work because the mind and the body are interrelated. They are all part of the same package,” said Jennifer Currin-McCulloch, manager of oncology support services at the ACI. Because of this relationship, you cannot treat just the body without also addressing issues such as stress or well-being. Currin-McCulloch looks for research opportunities to measure the effectiveness of integrative therapies. She has found time and again that what is good for the mind or spirit is also good for the body.

During chemotherapy, Murphy participated in an acupuncture program at the ACI. She found that it helped her control some of the nausea she experienced. She was also taking yoga classes for cancer survivors at Memorial University Medical Center. The combination of therapies helped her to find balance and strength.
After her last round of chemotherapy, Murphy felt she could finally put cancer behind her. She was ready to move on, but cancer dealt one final blow. She was left with intense post-treatment anxiety that made her unable to sleep or enjoy life. Once again, she turned to the integrative therapies at the ACI for help. This time, she tried hypnotherapy.

“Hypnotherapy teaches guided imagery and deep muscle relaxation. You learn to put your body into a deep, relaxed state so that you can find energy and courage to keep going,” said Currin-McCulloch. It was just what Murphy needed. She attended six one-on-one hypnotherapy sessions, and still attends group sessions when her schedule permits. “When I feel myself spinning out of control, I can practice deep relaxation,” said Murphy. “I can’t say enough good things about the integrative therapy programs at the ACI. They were what I needed to survive and thrive.”

Murphy must take a cancer-prevention drug called anastrozole for the next five years. It can have some challenging side effects, but Murphy has not experienced anything negative. She believes yoga, stretching, and other forms of exercise have contributed to her tolerance of the drug.

This year, Murphy will celebrate her 61st birthday and the arrival of her first grandchild. She is also going on a three-month European tour with her husband. She is embracing life and has the resources to cope with whatever challenges may come her way.

The ACI offers a variety of integrative therapies to help people with cancer maintain wellness during and after treatment. Special sessions or studies are offered at various times throughout the year.

**Mindfulness-Based Stress Reduction Series**
Learn deep relaxation, breathing, and gentle movement techniques to develop mindfulness, reduce stress, and enhance well-being. Through meditation, body awareness, Qi gong, and gentle yoga, participants learn to draw from their inner strength for healing and living fully.

**Cooking Class**
The head chef from Morrison Healthcare food services at Memorial Health provides demonstrations and samples of healthy meals for people who are in treatment. The sessions are held at various times throughout the year and include educational information about kitchen safety, food safety, and foods that promote healing.

**Hypnotherapy for Smoking Cessation**
Hypnotherapy is the newest addition to the integrative therapies at the ACI and is becoming a popular choice for smoking cessation. The ACI currently has a research study open to compare the efficacy of hypnotherapy for smoking cessation with the Georgia Department of Public Health’s Georgia Quit Line. The Quit Line offers counseling and nicotine replacement therapy (patches, gum, lozenges) at no cost. Hypnotherapy is receiving more attention from the research community as a healthy form of smoking cessation, but we need to gather conclusive data and results. The ACI’s goal is to increase our body of knowledge on hypnotherapy as an effective nicotine-free method for smoking cessation.

Other integrative services include art therapy, music therapy, reflexology, massage therapy, yoga, acupuncture, and nutrition counseling. To learn more about any of the ACI’s integrative therapies, contact Jennifer Currin-McCulloch at 912-350-7845, or currije1@memorialhealth.com.
The Center for Breast Care was the first practice in the region dedicated solely to women’s breast health. Since 2001, it has been a leader in the fight against breast cancer, bringing new technologies and surgical techniques to women in coastal Georgia. This year, one of the original founders, Paula DeNitto, M.D., retired from the practice. Taking her place is William Burak Jr., M.D.

Burak specializes in breast surgery and breast oncology. He attended Jefferson Medical College, part of Thomas Jefferson University in Philadelphia. He completed his residency training in general surgery at the University of Maryland Medical Systems. This was followed by a fellowship in surgical oncology at The Ohio State University. Burak also completed a research fellowship studying hormones and cancer in the Comprehensive Cancer Center at Ohio State. He is board certified in surgery, a fellow of the American College of Surgeons, and a member of the American Society of Breast Surgeons. Burak spent most of his career as a tenured faculty member at The Ohio State University and the James Cancer Hospital, where he received awards for his teaching and research. Before coming to Savannah, he was director of Advanced Breast Care of Georgia, located in the Atlanta area.

Burak joins breast surgeon Elena Rehl, M.D. They can be reached at 912-350-2700. You can learn more about the Center for Breast Care at breastcare.memorialhealth.com.

William Burak, M.D. breast surgeon.
New wearable treatment for brain cancer

By Aaron Pederson, M.D.
RADIATION ONCOLOGIST

Glioblastoma multiforme is the most aggressive primary brain cancer. It typically starts in the glial (supportive) tissue of the brain and grows fingers that burrow into the brain tissue and make it difficult or impossible to remove. Glioblastoma multiforme does not respond well to radiation or chemotherapy. And even if it is treated successfully, it often comes back again as recurrent glioblastoma. The median survival for this deadly cancer is 15 months.

For years, doctors and scientists have researched better glioblastoma treatments, but have had little success. That’s why it is notable that a new treatment for recurrent glioblastoma can extend life expectancy by several months. The breakthrough treatment is called Optune, and it is available at the Curtis and Elizabeth Anderson Cancer Institute (ACI) at Memorial University Medical Center. In fact, the ACI was only the second facility in the entire state of Georgia to offer the treatment.

Optune uses an electric field, called a tumor-treating field or TTF, to disrupt cancer cells and stop them from dividing. It is fundamentally different than other treatments because it does not use standard radiation therapy or chemotherapy.

Cancer occurs when abnormal cells divide uncontrollably. Research has found that TTF prevents glioblastoma cells from dividing, which slows or stops tumor growth. What makes it even more appealing is the fact that it does not cause debilitating side effects for the patient. It has the same benefits as chemotherapy for recurrent glioblastoma, but it does not make people sick.

Optune consists of four pads that are worn on the head. Each pad contains transducer arrays that deliver waves of electric TTF to the brain. The head is shaved and the pads are attached to the skin with a medical adhesive. Wires leading from the arrays connect to a six-pound portable power supply. To be effective, the patient must wear the pads for at least 18 hours each day. The patient does not feel the TTF waves and there’s no pain. The only side effect is possible skin irritation from the adhesive used to attach the pads to the scalp.

In the past, the standard treatment for glioblastoma multiforme was radiation, with a survival rate of nine to 12 months. Chemotherapy could extend survival to 12 to 15 months. Now, Optune is increasing survival to 18 months. For a cancer as elusive and aggressive as recurrent glioblastoma, a three-month life extension is significant. Currently, Optune is FDA approved for recurrent glioblastoma in people age 22 or older. Trials are being analyzed to see if Optune is also effective for people who are newly diagnosed. We are pleased to offer this life-extending treatment at the ACI.

Radiosurgery for brain tumors

The Curtis and Elizabeth Anderson Cancer Institute (ACI) at Memorial University Medical Center also provides stereotactic radiosurgery for the treatment of brain tumors. Although it has “surgery” in its name, radiosurgery is not actually a surgical process. Instead, it involves sending a high dose of radiation directly into the tumor without damaging the surrounding healthy tissue.

During radiosurgery, the patient must wear an immobilization device to help him or her remain perfectly still. For brain cancer patients, this often meant wearing a full face mask. The ACI is the only facility in coastal Georgia to offer a new, more comfortable non-rigid immobilization. This non-rigid mask can decrease the patient’s stress and discomfort during the procedure.

The ACI has been using radiosurgery since 1989, most often for brain and lung cancers. Recently, we became the first in the region to offer radiosurgery for the spine. To learn more about the radiation therapy services at the ACI, call 912-350-8795 or visit aci.memorialhealth.com.
Gary Exley is happiest when he’s near the water. The 68-year-old retiree lives on Tybee Island, where he can spend plenty of time sitting on his dock or catching shrimp and fish.

In September 2014, Exley noticed a small lump on the left side of his neck. His throat wasn’t bothering him, he didn’t have a cough, and the lump didn’t hurt, so he left it alone. But it didn’t go away.

In November, Exley asked his primary care doctor about the lump. He was referred to an ear, nose, and throat (ENT) specialist who did a biopsy to test tissue in the lump. A few days later, Exley received devastating news.

“They said I had squamous cell cancer in my lymph node. I kept thinking, ‘not me. I’m healthy. I’m immune to this sort of thing,’” said Exley.

Exley began researching his options online. He conferred with his daughters, Aimie and Ashlie, who are both nurses. And he discussed it with his long-time friend, Janice. His ENT was recommending exploratory surgery to see how extensive the cancer was. But before he went any further, Exley wanted a second opinion. That’s when he was referred to Guy Petruzzelli, M.D., Ph.D., MBA, an otolaryngologist and the leader of the head and neck surgery program at the Curtis and Elizabeth Anderson Cancer Institute (ACI) at Memorial University Medical Center. Exley called Petruzzelli’s office and left a message. That evening, Petruzzelli called him back on his cell phone and arranged to see him the very next day.

At the appointment, Petruzzelli slid a small scope through Exley’s nostril, and soon Exley was looking right at the enemy.

“A picture is worth a thousand words. Dr. Petruzzelli showed me my tonsil area on a monitor. It was covered with something that looked like tiny yellow fish eggs or beads,” said Exley. He was looking at primary squamous cell cancer that had started below his tonsil on the side wall of his throat. The cancer had spread to the lymph node in Exley’s neck. “He told me what he recommended and answered every question I had. Right then, I knew Dr. ‘P’ was going to be my doctor.” That evening, Exley again turned to his support team, Aimie, Ashlie, and Janice, for advice. They all agreed that he should follow Dr. Petruzzelli’s recommendations and plan of care.

Two days later, on January 16, 2015, Exley underwent a five-hour surgery at Memorial University Medical Center. Petruzzelli performed a neck dissection. He exposed the neck with an incision that began in the hairline behind the ear and went across the collarbone to the breastbone.
He removed all of the cancer in the neck, but preserved the nerves, blood vessels, and muscles. The primary tumor in Exley’s throat was removed through his mouth with the assistance of a robotic surgical device. With the 3D visualization and enhanced manipulation of the robotic instruments, Petruzzelli could precisely remove the tumor without harming the surrounding healthy tissue, meaning Exley’s voice and appearance would be normal after surgery. Exley spent four days in the hospital recovering. When he went home, he had pain in his throat and knew eating would be a challenge.

Exley had decided early on that he would do whatever he could to stay healthy and strong throughout his treatment. Failure to eat would weaken his body and possibly result in a feeding tube, so he forced himself to eat soft foods. He researched meal replacement drinks to learn which ones had the most nutrients in a small quantity. This allowed him to drink less and still get adequate nutrition. He lost 12 pounds after surgery, but soon gained it back by following a healthy diet.

Exley also maintained a positive attitude. He spent plenty of time sitting peacefully on his dock. And, he says his three grandchildren were wonderful therapy. They live out of state, but he visits with them online through Skype and FaceTime. Exley is now ready to begin the next phase of his treatment – 33 doses of radiation therapy and six rounds of chemotherapy. He was so impressed with Petruzzelli and his surgical outcome that he will have all of his treatment at the AIC. He fully intends to keep up his strength and activity throughout treatment, and he is prepared to deal with the side effects.

“I hate to lose my hair [from chemotherapy], but I’m willing to give it up if it means I can live another 20 to 30 years cancer free,” said Exley.

He will tackle radiation and chemotherapy the same way he tackled his surgery – with a desire to succeed, loving support and prayers from Aimie, Ashlie, and Janice, and the assistance of an expert healthcare team. Within a few months, he plans to put cancer behind him and get back to his peaceful life on the water.

To learn more about the head and neck surgery program at the AIC, call 912-350-2299 or visit aci.memorialhealth.com.
Personal experience becomes a \textit{lasting legacy}

Stories of personal triumph highlight the human spirit and encourage us all. The Curtis and Elizabeth Anderson Cancer Institute (ACI) at Memorial University Medical Center has many such stories. Some families impacted by cancer go a step further and establish a lasting legacy to impact the lives of others.

In 2007, Ken and Nancy Larsen established the Larsen Research Fellowship Endowment, which grows every year and is dedicated to cancer research. For the past two years, interest from the endowment has provided two $10,000 grants for Wei-Hsiung Yang, Ph.D., a research scientist at Mercer University School of Medicine, Savannah Campus. His research is focused on identifying the key biochemical signals that determine how cells become cancerous and how cancer cells grow and spread. The Larsen Fellowship grants have enabled him to purchase research supplies.

“I am so grateful to the Larsens. Their grants have defrayed expenses and are an encouragement to continue. Research is a slow and tedious process. Having others behind you is an inspiration,” said Yang.

Ten years ago, Toby Hollenberg founded the Stephen Hollenberg Memorial Fund, a patient assistance fund, to make her late husband’s dream of helping others a reality. Stephen Hollenberg, a pancreatic cancer patient, wanted to help those who did not have resources like he did. His living legacy has given more than $425,000 to cancer patients in need to help pay for prescriptions, gas, medical equipment, emergency utility assistance, and more.

“This fund is important to helping our patients overcome barriers to care. A patient who does not feel well because of nausea is likely to stop treatment. A patient who can’t afford the gas to get to treatment will likely not be compliant with his or her treatment. The patient assistance that the Hollenberg Fund provides increases the likelihood of patients following through on their treatment,” said Susan Harmon, the oncology social worker who manages the patient assistance funds at the ACI.

The Memorial Health Foundation is a philanthropic arm that accepts and distributes financial gifts for Memorial Health. To make a contribution or to learn about giving to the ACI, visit supportaci.com or contact Anne Cordeiro at 912-350-8934 or cordean1@memorialhealth.com.
Memorial University Medical Center serves people in 35 counties spanning two states. To make our services more accessible to people throughout the region, the Curtis and Elizabeth Anderson Cancer Institute established a number of satellite offices. When you make your appointment, ask if there is an office near you. Our regional offices include:

**GEORGIA**

**Brunswick | 912-350-2299**
3226 Hampton Avenue, Suite F
James Burke II, M.D.,
gynecologic oncologist

**Jesup | 912-350-2700**
Jesup Medical Office
131 Peachtree Street
Catie Bell, N.P.,
Center for Breast Care nurse practitioner

**Richmond Hill | 912-350-2700**
3776 Highway 17 South
Elena Rehl, M.D., breast surgeon

**Statesboro | 912-350-2299**
23630 Highway 80 East, Unit B
William Burak Jr., M.D., breast surgeon
James Burke II, M.D.,
gynecologic oncologist
Scott Purinton, M.D., Ph.D.,
gynecologic oncologist
Elena Rehl, M.D., breast surgeon

**SOUTH CAROLINA**

**Bluffton/Okatie | 912-350-2299**
14 Okatie Center Boulevard South, Suite 100
Scott Purinton, M.D., Ph.D.,
gynecologic oncologist
Christopher Senkowski, M.D.,
gastrointestinal surgeon
Tanger PinkSTYLE Campaign coming to Savannah

The brand new Tanger Outlets Savannah, located at I-95 and Pooler Parkway, is partnering with the Memorial Health Foundation to support breast cancer services at the Curtis and Elizabeth Anderson Cancer Institute (ACI) at Memorial University Medical Center.

This fall, Tanger will sell packages of five Tanger Pink Cards for $5 each. Each card gives you a 25-percent discount off a single item at participating Tanger Outlet stores. You can purchase as many cards as you’d like during the PinkSTYLE campaign that begins in September. Proceeds from the cards will benefit both the ACI’s breast cancer services and the Breast Cancer Research Foundation.

At the ACI, the funds will support our breast cancer nurse navigator, 3D mammograms and other diagnostic tests, and patient assistance programs that help patients in need pay for food, medicine, and other treatment-related expenses.

Since 1994, Tanger Outlet Centers has contributed more than $14.5 million to this important cause through its PinkSTYLE campaign, 5K races, Pink Partini, and other events. Watch for more details in the coming months.