

Aurora St. Luke's Medical Center

Cancer Care

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Minimally Invasive Treatment Options

6 BENEFITS OF
MINIMALLY INVASIVE SURGERY

PATIENT PROFILE
MAMMOSITE® THERAPY
FOR BREAST CANCER

PLUS: DR. JOHNSON AND
DR. LEONOVICZ ON ROBOTIC-ASSISTED
PROSTATE CANCER SURGERY



Aurora St. Luke's
Medical Center®

Cancer Care is a publication of Aurora St. Luke's Medical Center in Milwaukee, Wisconsin.

Aurora St. Luke's is a destination facility for advanced care of all types and attracts patients from throughout the country. Aurora St. Luke's is recognized as a leading center for cancer, cardiovascular and neurological services, and has pioneered numerous procedures and technologies within the region.

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In 2007, more than 213,000 new cases of lung cancer were diagnosed in the United States, according to the American Cancer Society, and more than 160,000 persons died from the disease. Lung cancer is the leading cause of cancer death. In fact, each year lung cancer causes more deaths than prostate, breast and colorectal cancer combined.

Lung cancer patients gain CyberKnife® option

For those who have been diagnosed with lung cancer, effective treatment typically involves a combination of surgery, chemotherapy and radiation. Unfortunately, many patients with pulmonary metastases or primary lung cancer are medically inoperable, due to the complexity or location of their tumor.

Aurora St. Luke's Medical Center offers an important new option for such patients: CyberKnife® radiosurgery.

The CyberKnife® is a state-of-the-art surgical system that combines the advantages of robotic, imaging and radiation technology to precisely eradicate tumor tissue that is unreachable or untreatable by other methods. The CyberKnife® uses focused beams of radiation and sub-millimeter accuracy to deliver high-dose radiation conforming to the exact size and shape of the patient's tumor.

The Synchrony™ Respiratory Tracking System contributes an additional level of precision by simultaneously

tracking the breathing patterns of the patient and the movement of the tumor. The Synchrony System is the world's first and only technology that allows delivery of radiation on tumors that move during the patient's normal breathing cycle.

"During CyberKnife® surgery," explains Santosh Krishnan, MD, PhD, Program Director of Thoracic Radiosurgery, "the radiation beam is being adjusted by computers to deliver radiation as the tumor moves with respiration. In this way, the tumor get the maximum amount of radiation and normal tissue next to the tumor is not affected by the radiation at all."

"For many patients who are not operable, the CyberKnife® is the best option," says Kenneth Bastin, MD, Clinical Director of Radiation Oncology. "The CyberKnife® is unlike anything else in the world. It gives us the opportunity to treat patients with problems we really could not treat adequately before."

The surgeons at Aurora St. Luke's pioneered CyberKnife® surgery in Wisconsin in 2006 and were the first in the state to use the technology to treat lung cancer. More than 150 lung cancer patients have received treatment to date.

In addition to being a one-of-a-kind option for lung cancer patients, CyberKnife® surgery offers other important advantages. It is a minimally invasive procedure and involves no incisions whatsoever. Treatment is performed on an outpatient basis and is typically completed within one week. Patients experience minimal discomfort and often immediately resume everyday activities.

Aurora St. Luke's is Wisconsin's most experienced provider of CyberKnife® surgical services and offers lung cancer patients the widest range of treatment options. To learn more or schedule an appointment, contact the Second Opinion Program at 888-649-6892.



The CyberKnife® radiation therapy team at Aurora St. Luke's Medical Center includes therapists Patty Bennett and Jennifer Melichar. Aurora St. Luke's was among the first 30 CyberKnife® installations in the U.S. and has performed more than 230 procedures in the past two years.



On the Cover

Robotic-assisted prostate surgery offers new levels of precision and speeds patient return to everyday activities. Matthew W. Johnson, MD, Aurora St. Luke's urologist, has performed more than 500 such procedures and offers a level of experience that is unmatched in the state.

Innovative MammoSite® therapy eases breast cancer treatment



Ellen Ziaja, MD



Marlene Carter of Milwaukee is one of the many breast cancer patients who have benefited from MammoSite® therapy at Aurora St. Luke's.

A unique new therapy for breast cancer patients at Aurora St. Luke's Medical Center reduces typical radiation treatment time from more than six weeks to only five days, with significantly less discomfort and fatigue.

The innovative new treatment is known as MammoSite® and it is applied after a breast tumor has been surgically removed via lumpectomy. The procedure involves placement of a radioactive seed in the area of the breast where the tumor was located.

"For women with early stage breast cancer who have had a lumpectomy and are at least 45 years old, MammoSite® has been shown to have the same five-year effectiveness as external beam radiation," says Ellen Ziaja, MD, Radiation Oncologist. "We can accomplish the same goal with less skin irritation, greatly reduced fatigue and a much briefer

course of treatment. There is little or no discomfort. Most patients don't even need pain medication."

Marlene Carter of Milwaukee is one such patient. She was diagnosed with early-stage breast cancer earlier this year and underwent a lumpectomy to remove the cancerous tissue. When it came time for radiation therapy, MammoSite® was recommended as a possible option.

"My doctors were just wonderful," says Marlene. "They explained everything. At first I was reluctant to do the MammoSite®, thinking that I should stick with the tried and true – six weeks of radiation. But then I got on the Internet, learned more about it and talked to my family. In the end, we figured MammoSite® was the best way for me to go."

The MammoSite® procedure begins with the surgical placement of a small hollow tube leading directly to the tumor site. Through the tube, a tiny balloon with a radioactive seed (about the size of a grain of rice) is inserted for 10 minutes and then withdrawn. The procedure is repeated twice a day for five days and is performed on an outpatient basis.

"With MammoSite® there's no pain," explains Marlene. "You feel perfectly fine. I can honestly say that the only thing that hurt was when they removed the MammoSite® tube."

How does Marlene feel about the care she received at Aurora St. Luke's? She appreciates how many people got involved and how smoothly she was able to move from appointment to appointment, from physician to physician. But more than anything, Marlene is grateful.

"I thank God for Dr. Cooley (Peter A. Cooley, MD), the radiologist who spotted my cancer," she says. "It was quite small and difficult to see. There was no inkling of it – no lump or anything you could feel."

"Dr. Tjoe (Judy Tjoe, MD) did my surgery at Aurora Sinai, and she's very, very good at what she does. All she does is breast cancer. Nothing else."

"And Dr. Ziaja, who did my MammoSite® treatment, is just a lovely lady," Marlene continued. "The treatment worked out real well. I would recommend it to anybody. If anybody you care about ever gets breast cancer and it is small, have them do it."

6 benefits of minimally invasive surgery

- 1 Less pain** – Minimally invasive procedures are far less traumatic than traditional open surgery. Reduced exposure to infection.
- 2 Less scarring** – Depending on the specific procedure, incisions may be very small or nonexistent.
- 3 Less blood loss** – Need for transfusions is reduced or eliminated altogether, adding another margin of safety.
- 4 Less risk of infection** – Avoiding open surgery decreases the patient's exposure to complications of infection.
- 5 Quicker recovery** – Patients are able to resume their normal lives much more quickly. Potential side effects are minimized.
- 6 Shorter hospital stay** – Depending on the specific procedure, hospital stays are reduced by as much as 60%.

New treatments for liver cancer

At Aurora St. Luke's Medical Center, patients with liver cancer have access to a number of interventional radiation treatment options designed to deliver targeted treatments directly to the tumor site, without affecting other parts of the body.

"In some patients with colorectal cancer, the disease can spread to the liver," says Robert Beres, MD, interventional radiologist. "Fortunately, there are a number of ways we can treat those tumors."

Chemoembolization is a minimally invasive treatment that delivers high-dose chemotherapy directly to the liver, while blocking (embolizing) the arteries feeding the tumor. **TheraSphere®** is an innovative new treatment that also embolizes the arteries, but uses tiny radioactive beads to literally attack the tumor from within. **Radiofrequency ablation (RFA)** is a non-surgical, targeted treatment option that uses heat to destroy tumor tissue. **Cryoablation** is similar to RFA, but uses extreme cold to freeze and destroy tumor cells.





Nearly 600 robotic-assisted prostate surgeries have been performed at Aurora St. Luke's Medical Center, making it Wisconsin's most experienced provider. The procedure offers patients increased precision, less pain and a more rapid return to everyday activities.

Advantages of Robotic-Assisted Prostate Cancer Surgery

State-of-the-art system provides increased surgical precision and speeds patient return to everyday activities



Peter F. Leonovicz, MD and Matthew W. Johnson, MD lead the robotic-assisted prostate surgery program at Aurora St. Luke's.

At Aurora St. Luke's Medical Center, patients with prostate cancer have access to the unmatched precision of robotic-assisted surgery. Aurora St. Luke's was the first in Wisconsin with the da Vinci® surgical system in 2003, and our surgeons have performed nearly 600 prostate procedures using robotic-assisted technology – experience that is unmatched by any hospital in the state.

Robotic-assisted prostatectomy (prostate removal) is being used increasingly nationwide, as more men become aware of – and have access to – the unmatched precision and minimally invasive advantages of this new technology. Traditional open surgery to remove the prostate is painful, takes weeks or months to heal and frequently involves urine control or erectile dysfunction issues.

“Patients are getting back to what they were doing much sooner. Many are leaving the hospital the next day.”

With a 10X magnification of the surgical site, the da Vinci® robotic system combines minimally invasive techniques with extraordinary dexterity and precision, and offers patients several important advantages:

- Less blood loss
- Shorter hospital stay
- Much faster return to everyday activities
- Extreme precision, sparing adjacent nerves from damage
- Reduced risk of impotence or incontinence

The procedure involves only six small incisions, providing access for microsurgical instruments which include a tiny video camera that serves as the surgeon's “eyes” during the procedure. The camera produces a

three-dimensional view of the prostate and surrounding nerves.

“The magnified lens that’s used on the da Vinci® robot has allowed us to better see critical structures, such as the neurovascular bundle,” says Matthew W. Johnson, MD, Aurora St. Luke’s urologist. “We’re able to perform a more precise surgical procedure.”

“Most important,” continues Dr. Johnson, “patient recovery times with robotic-assisted surgery are much less. Patients are getting back to what they were doing much sooner. Many are leaving the hospital the next day.”

“We are also seeing a more rapid return of urinary control,” adds Peter F. Leonovicz, MD, Aurora St. Luke’s

urologist. “The da Vinci® robot, in the right hands, offers patients a real unique advantage.”

Almost all men with localized prostate cancer and under 70 years of age are candidates for robotic-assisted surgery. To learn more, contact the Second Opinion Program at 888-649-6892.

AURORA ST. LUKE'S MEDICAL CENTER				
More Minimally Invasive Options				
	PROSTATE CANCER	LUNG CANCER	BREAST CANCER	COLORECTAL CANCER
minimally invasive options	Robotic-assisted surgery CyberKnife® surgery Prostate seed (brachytherapy)	CyberKnife® surgery VATS EBUS (Endobronchial Ultrasound)	Mammosite® Sentinel lymph node mapping Ductoscopy	Hand-Assisted Laparoscopic Surgery (HALS) Laparoscopic Total Mesorectal Excision (TME) Radiofrequency ablation Cryoablation
advantages	Increased precision Less pain and blood loss Less risk of infection Quicker recovery Hospital stay reduced or eliminated	Increased precision Much less pain Reduced scarring and blood loss Less risk of complications Quicker recovery Hospital stay reduced or eliminated	Less pain and scarring Less risk of infection Quicker recovery Hospital stay reduced or eliminated	Increased precision Less pain, scarring and blood loss Less risk of infection Quicker recovery Hospital stay reduced or eliminated
recovery period	Robotic-assisted: 3 weeks vs. 6 weeks for traditional open surgery CyberKnife®: Immediate, same-day return to everyday activities Prostate seed: Immediate, out-patient procedure	CyberKnife®: Immediate, same-day return to everyday activities VATS: 3 days vs. 7-10 days for traditional procedure EBUS: Immediate, many patients returning home same day	Mammosite®: Several visits to physician within a 5-day period, with immediate return to everyday activities Sentinel lymph node mapping: Immediate, many patients returning home same or next day Ductoscopy: Immediate, same-day return to everyday activities	Hand-Assisted Laparoscopic Surgery (HALS): 1-2 weeks vs. 6-8 weeks for traditional open surgery Radiofrequency ablation: Immediate, many patients returning home next day Cryoablation: 1 day with overnight stay in hospital
patients treated in 2007	329 (Aurora St. Luke's) 667 (Aurora Health Care)	366 (Aurora St. Luke's) 703 (Aurora Health Care)	306 (Aurora St. Luke's) 1,116 (Aurora Health Care)	198 (Aurora St. Luke's) 489 (Aurora Health Care)

Advanced treatment options for colorectal cancer

Wide range of options not available at all hospitals



Aurora St. Luke's Medical Center is on the leading edge of colorectal cancer care and offers treatment options that promise to significantly advance the fight against the disease.

One of the latest innovations is hand-assisted laparoscopic surgery (HALS), for removal of benign and malignant colon tumors. The HALS procedure uses minimally invasive laparoscopic instruments, but also allows the surgeon to place his or her hand in the abdomen – to manipulate the organs and further inspect the tumor site.

As explained by James V. Klas, MD, board-certified colorectal surgeon and pioneer of the procedure at Aurora St. Luke's, "The HALS procedure provides internal access for my hand, which is the most important surgical tool of all. I can feel the tumor site, which provides me with information and feedback other instruments cannot."

Dr. Klas has performed the HALS procedure more than 150 times and teaches other physicians how to perform the surgery.

"The hand-assisted procedure has been shown to have the same excellent results as open surgery," states Dr. Klas, "if it is performed by someone who is experienced and trained in advanced laparoscopic techniques."

Most importantly, he continues, "If you perform the procedure day-in and day-out as we do, cancer recurrence rates are lower and survival rates are better."

For information on the HALS procedure, contact the Second Opinion Program at 888-649-6892.

Importance of screening and early detection

Despite the fact that colorectal cancer is the third most diagnosed cancer in the U.S. and is highly treatable when discovered early, nearly 40% of adults continue to avoid being screened for the disease, according to the Centers for Disease Control (CDC).

The latest guidelines from the American Cancer Society recommend one of the following screening tests for those who are age 50 and older, and are at "average risk" for the disease:

Tests that find polyps and cancer

- Flexible sigmoidoscopy every 5 years
- Colonoscopy every 10 years
- Double contrast barium enema every 5 years
- CT or virtual colonoscopy every 5 years

Tests that mainly find cancer

- Fecal occult blood test (FOBT) every year
- Fecal immunochemical test (FIT) every year
- Stool DNA test (sDNA), interval uncertain

Talk to your doctor to determine which test is best for you, or to begin screening earlier if you have a family history or risk factors for colorectal cancer.



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