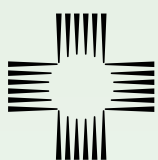
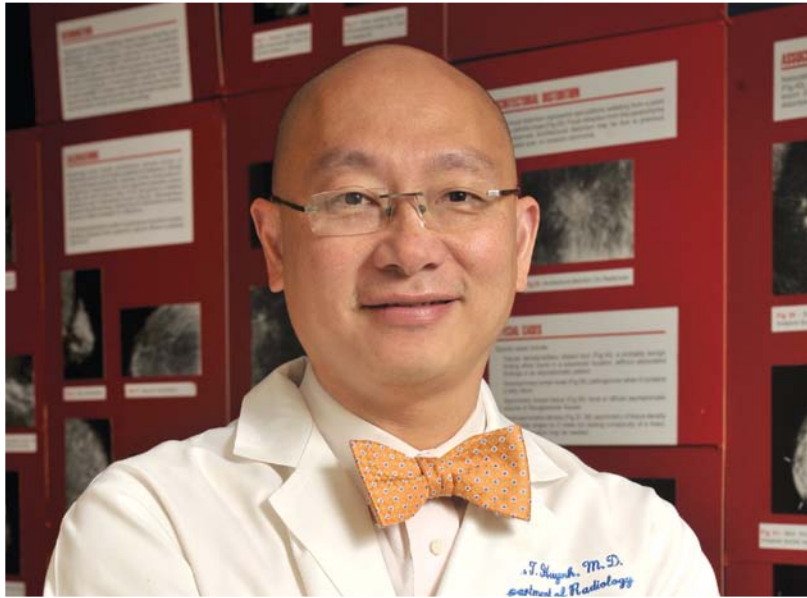


2011 Cancer Program Annual Report of 2010 Facts and Figures



ST. LUKE'S® Cancer Center

The Cancer Center
at St. Luke's
is accredited by:



Commission
on Cancer

*The mission of
the Cancer Center at St. Luke's
is to provide high quality,
personalized cancer care
to each patient
through a full range
of integrated,
state-of-the-art services,
ministering to the whole patient:
body, mind, and spirit.
St. Luke's delivers
Faithful, Loving Care.™*

On the Cover: Clockwise from top left: **Lawrence Foote, MD**, hematologist and medical oncologist, and Cancer Committee member; the high-field open MRI at St. Luke's Cancer Center Outpatient–Kirby Glen; **Jackie Harvey**, long-time appointment clerk at the Oncology Outpatient Infusion Center–Kirby Glen and 32-year St. Luke's employee; **Phan Huynh, MD**, breast imaging radiologist and Medical Director of the St. Luke's Women's Center; **Tiffany Smith**, mammographer at St. Luke's Women's Center, with digital mammography equipment; **Debra Dees, RN**, and **Cheryl Barajas, RN**, at the Wayne Dees, RN, Memorial Rose Garden Dedication at St. Luke's Cancer Center–Kirby Glen; **Suneel Chilukuri, MD**, dermatologist at the St. Luke's May Skin Cancer Screening; and **Maria Montemayor, BSRT (R) (M) (QM)**, supervisor of the Women's Center welcoming guests, with **Elva Stewart**, radiology secretary.

A MESSAGE FROM THE MEDICAL DIRECTOR

As we prepare for this year's annual report, we are also looking toward the review early this fall of our cancer program by the Commission on Cancer. An Outstanding Achievement Award came with commendations for the three years ending in 2008. Cancer care remains a high priority for St. Luke's. On July 18, 2011, we learned that *U. S. News and World Report* listed St. Luke's Episcopal Hospital in 2010 as the number two hospital in the Houston metro area and designated the areas of **Cancer**, Gynecology, Nephrology, Neurology and Neurosurgery, Orthopedics and Pulmonology as high performing.

The Cancer Committee met all cancer program goals that it had established for 2010. St. Luke's Radiation Therapy and CyberKnife® facility now houses three linear accelerators: the IMRT Trilogy®, the original IGRT linear accelerator, and the CyberKnife® Robotic Radiosurgery System. In addition, high-dose rate brachytherapy has been added to the radiation therapy services. The outpatient services at the Cancer Center at St. Luke's premiered a new high-field open magnetic resonance imaging (MRI) system at the end of 2010. Unique to our radiation services are the many applications of the CyberKnife® Robotic Radiosurgery System, a non-invasive alternative to surgery for treating both cancerous and non-cancerous tumors anywhere in the body. This treatment offers new hope to patients who have inoperable or surgically complex tumors or who may be looking for a non-surgical option.

Goals accomplished in 2010 include our cancer center's participation with the University of Texas M.D. Anderson Cancer Center in a research trial comparing tumor control and survival using traditional surgery versus CyberKnife® Robotic Radiosurgery treatment for operable Stage 1 non-small cell lung cancer. Philip A. Salem, MD, the Philip A. Salem MD Chair and director of cancer research was instrumental in St. Luke's affiliation with M.D. Anderson for the Community Clinical Oncology Program (CCOP). The Cancer Center had a total of 193 participants in research trials in 2010.

Programmatic endeavors included providing outpatient supportive services, such as wound care, lymphedema services, and infusion/chemotherapy services, as well as informing and educating the public through the updated St. Luke's Episcopal Hospital and Cancer Center web site: stlukeshouston.com.

As in years past, our multidisciplinary tumor boards and cancer conferences continue to thrive with the addition of a monthly Thoracic Tumor Board and twice monthly Neuroscience Tumor Board. The Cancer Center extends thanks to our physicians who attend, present cases, have served as moderators and have kept the tumor boards fluid and timely. Fourteen tumor boards per month cover gynecologic oncology, pancreatic and gastrointestinal cancer, hematological malignancies, breast cancer, lung cancer, and neurological cancers.

Community outreach, cancer prevention and early detection events included two successful skin cancer screenings in May 2010, at which 146 people were screened by board-certified dermatologists in coordination with the Houston Dermatological Society and the American Cancer Society. In March 2010, colon cancer awareness and prevention education was provided by the hospital's endoscopy nurses. Susan Escudier, MD; Luis Camacho, MD; and I provided



educational lectures with question-and-answer sessions at several community church health fairs. Kirk Heyne, MD, and Luis Camacho, MD, lectured at the Internal Medicine Grand Rounds in 2010. As a Gold Sponsor, St. Luke's Episcopal Health System and the Cancer Center supported the Susan G. Komen Race for the Cure in October, and a team from the Women's Center/Breast Imaging Center represented St. Luke's. Fourteen volunteer St. Luke's registered nurses served on the first-aid medical triage team at the Race. At Cancer Committee, Phan Huynh, MD, director of the Women's Center, reported that 35,000 people attended the Race that raised \$4 million in 2010.

Cancer Committee goals for 2011 include:

- the Hematology/Oncology Section and Pharmacy Informatics will develop and launch electronic ordering of chemotherapy protocols;
- increasing our research trial patient accrual;
- exploring the feasibility of lung cancer screening for people at high risk;
- providing public skin cancer screening and breast cancer screening;
- in cooperation with St. Luke's Integrative Care Committee, applying for a grant for a nutritionist once a week at the outpatient oncology center;
- establishing convenient staging forms on the electronic medical record (EMR) for physicians to access and file with the registry.

This year, the Cancer Center at St. Luke's welcomed William Brosius, vice president and Chief Financial Officer at St. Luke's, as the vice president over Oncology Services. He has been very supportive of the oncology team, as well as participating in our Cancer Committee. We also congratulate Valerie Baron, RN, who was appointed the Oncology Service Line Director.

In this report, the Cancer Committee has chosen three cancer sites to review based on comparing cancer registry data to that of the National Cancer Data Base: melanoma, pancreatic cancer, and bladder cancer. Four physician specialists provide analysis of data and recommendations, identifying process changes, if necessary, to enhance patient care at St. Luke's.

We look forward to 2011 with a strong commitment to excellence. Our oncology team of physicians, nurses, administrators, cancer registrars, auxiliary volunteers, and ancillary care staff strive to continue providing the best cancer care and supportive care for those locally, nationally, and throughout the international community. St. Luke's delivers *Faithful, Loving Care™*.

L. Steven Carpenter, MD

Interim Medical Director, Cancer Center at St. Luke's
Chairman, Cancer Committee

2010 ACCOMPLISHMENTS – THE CANCER CENTER AT ST. LUKE’S

- **St. Luke’s Radiation Therapy and CyberKnife® Facility:** St. Luke’s Radiation Therapy and CyberKnife® facility provides three radiation therapy units: an IMRT linear accelerator, a new Trilogy® IGRT linear accelerator, and the CyberKnife® stereotactic radiotherapy system. A high-field open magnetic resonance imaging system (MRI) was installed at the end of 2010.



Sandra Nava, RT, Lead Radiation Therapist, and Shalonda Ervin, RN, OCN, Outpatient Oncology Nurse Manager, monitor CyberKnife® treatment.

- **St. Luke’s Pulmonary Medicine Acquired a superDimension® Electromagnetic Navigation Bronchoscopy™ (ENB).** The i-Logic System is designed to extend the reach of the conventional bronchoscope, providing minimally invasive access to lesions deep in the lungs, as well as mediastinal lymph nodes.
- **Cancer Research Accrual:** The Cancer Center at St. Luke’s had a total of 193 participants in research trials in 2010. Major accruals are attributed to Matthew Anderson, MD, and William Fisher, MD, who participate in tissue banks, as well as several NCI-sponsored clinical trials. Research volumes during 2010 are 10% of the annual analytic case total.
- **Tumor Boards and Cancer Conferences:** The Thoracic Tumor Board and the Neuroscience Tumor Board began in early 2010. Existing tumor boards saw increased attendance. In 2010 St. Luke’s medical staff members presented 607 cancer cases in the multidisciplinary forum with more than 822 physicians attending the conferences. Current statistics

show that 31% of analytic cases were presented in 2010. From January to December, 124 tumor boards and cancer conferences were held. Site specific tumor boards include: Pancreas Tumor Board, Breast Cancer Conference, Gynecological Oncology Tumor Board, the Hematological Malignancies Tumor Board, Thoracic Tumor Board, Neuroscience Tumor Board and the Kelsey-Seybold Tumor Board. All the tumor boards sponsored by the Cancer Center at St. Luke’s are approved for one hour of CME Category I credit.

- **Philip A. Salem MD Chair in Cancer Research at St. Luke’s:** Margaret Van Bree, DrPH, Chief Executive Officer, St. Luke’s Episcopal Hospital, formally announced the new Philip A. Salem MD Chair in Cancer Research that was established through philanthropic gifts of more than \$2.5 million. Dr. Salem is the Director of Cancer Research at St. Luke’s Episcopal Hospital and holds the Chair.
- **Oncology Lecture Series at Medicine Grand Rounds:** The Cancer Committee continued the Cancer Education Lecture Series by St. Luke’s specialists who spoke at the Internal Medicine Grand Rounds to physicians, fellows, medical students, residents and nurses. On June 14, 2010, Luis Camacho, MD, presented “Development of Anti-Cancer Therapies:

A Perspective and Future Challenges.” On August 16, Kirk Heyne, MD, presented “The Effect of Gene Therapies on Future Cancer Treatments.”

- **Survival Studies Published in 2010 Annual Report:** The Cancer Center at St. Luke’s published three outcomes and survival studies comparing 2009 St. Luke’s Episcopal Hospital’s cancer statistics to National Cancer Data Base statistics. Eric Bernicker, MD, and John Goss, MD, wrote the study article “Hepatocellular Carcinoma: 5-year Survival Study of St. Luke’s vs. the National Cancer Data Base.” Luis Camacho, MD, and Mark Sutton, MD, wrote the study article “Renal Cell Carcinoma: 5-year Survival Study of St. Luke’s vs. the National Cancer Data Base.” Susan Escudier, MD, wrote the study article “Acute Myeloid Leukemia: 5-year Survival Study of St. Luke’s vs. the National Cancer Data Base.” Comparisons were made regarding age at diagnosis, stage at diagnosis and survival over five years. St. Luke’s statistics were equal to or better than national statistics overall. Authors provided comparisons with the national statistics and made recommendations regarding research, new therapies and technology for cancer patients.
- **Studer Group Participation:** Studer Group and St. Luke’s *Faithful, Loving Care™* philosophy provided skill



William Brosius, Vice President and Chief Financial Officer; Steven Carpenter, MD, Medical Director of Cancer Program; and Hsin Lu, MD, Radiation Oncology, participate in St. Luke’s Cancer Committee meeting, August 17, 2011.



Eric Bernicker, MD, Chief, Medical Oncology Section; moderator, Thoracic Tumor Board and Neuroscience Tumor Board.

sets for St. Luke's management and employees throughout 2010.

- **Service** – Patient satisfaction has gone up in the oncology outpatient clinics.
- **Quality** – Implementing evidence-based tactics such as hourly rounding has reduced pressure ulcers, falls, and call-light rings while dramatically improving patient satisfaction on the oncology inpatient care unit.
- **People** – Employees and physicians strive to create a better place to work and practice medicine. This results in remarkable reductions in employee turnover, improvements in physician engagement and a unified focus on the patient.
- **Finance** – The average return on investment is expected to rise.
- **Growth** – The Cancer Center at St. Luke's has demonstrated growth through the expansion of the new St. Luke's Radiation Therapy and CyberKnife® center, as well as growth of tumor boards for physicians and patient volume in the outpatient and inpatient oncology areas.
- **Cancer Screenings and Early Detection Awareness:**
 - In March 2010, the Cancer Center at St. Luke's co-sponsored a Colon Cancer Awareness exhibit with St. Luke's Endoscopy nursing staff.

It featured educational materials and nursing staff who answered questions regarding colonoscopies and other endoscopic procedures.

- On May 3, 2010, the Cancer Center sponsored a St. Luke's Episcopal Hospital Employee Skin Cancer Screening at which 21 employees were screened for skin cancer by Ida Orengo, MD, board certified dermatologist. Six employees were referred for biopsy and follow-up.
- On May 15, 2010, the Cancer Center sponsored St. Luke's participation in the Citywide Skin Cancer Screening. Sylvia Hsu, MD, Rajani Katta, MD, and Suneel Chilukiri, MD, screened 125 people with St. Luke's registered nurses assisting in the screenings. At this event, 49 people were referred for biopsy and follow-up with three people suspicious for melanoma. The Cancer Center continued to follow the participants and assist with follow-up.
- **Community Outreach:**
 - The Cancer Center at St. Luke's was represented at the April 2010 American Cancer Society Relay for Life by Rosalyn Jones-Waters, RN, OCN, and a team of nurses.
 - Susan Escudier, MD, Steve Carpenter, MD, and Luis Camacho, MD, presented cancer education to community church groups.
 - St. Luke's clinical, administrative and volunteer staffs participated in successful outreach events that included the Susan G. Komen Race for the Cure, Relay for Life, Tour de Pink/Pink Ribbons Project, CanCare, American Cancer Society and several community health fairs.

The Oncology auxiliary volunteers and CanCare volunteers, chaired by Mr. Kurt Berk, continued to make patient rounds each week during 2010. They visited inpatients and outpatients. Mr. Berk has now volunteered more than 5,500 hours at St. Luke's Episcopal Hospital.

Patients at St. Luke's benefit from a full spectrum of diagnostic technologies and treatment modalities that are continuously enhanced.

- CyberKnife® Stereotactic Radiosurgery System
- Radiation Therapy – IMRT (Intensity Modulated Radiation Therapy) and IGRT (Image Guided Radiation Therapy) with Trilogy®
- Brachytherapy and MammoSite®
- PET/CT Technology (fused metabolic images and anatomic images)
- Siemens CT-Scanners – 4-, 16-, and 64-Slice; GE 8- and 16-Slice in Radiation Oncology
- Siemens High Field Strength 3 Tesla MRI Scanner
- High Field Open MRI
- Super Dimension i-Logic™ System/Electromagnetic Navigation Bronchoscopy™
- Gene Therapy Research
- Endoscopic ultrasound (EUS)
- DaVinci Robotic Surgery
- Digital Mammography
- Breast MRI following ACoS Guidelines
- Radiofrequency Ablation
- State-of-the-art operating room suites and dedicated inpatient surgical units to consolidate specialized care for breast, colorectal, lung, gastrointestinal, pancreas, and other surgery
- Sentinel lymph node mapping for breast surgery and for melanoma
- Stereotactic biopsy and fine-needle biopsy
- Laparoscopic surgical procedures
- Mastectomy with immediate reconstructive surgery
- Breast conservation surgery
- Targeted cancer therapies
- Chemotherapy, biochemotherapy, hormone therapy, and chemoprevention

The Cancer Committee at St. Luke's Episcopal Hospital is responsible for upholding current cancer program standards as set forth by the Commission on Cancer of the American College of Surgeons in the *Commission on Cancer Standards 2009 Revised Edition*.

The committee provides programmatic leadership in setting goals, as well as planning, initiating, implementing, evaluating, and improving all cancer-related activities at St. Luke's Episcopal Hospital. The committee enhances patient care through quality management initiatives; consultative prospective and educational cancer conferences covering major cancer sites; an active supportive-care system for patients, families and staff; accessibility of clinical research; and accurate and timely accession, staging and follow-up of cancer patient data in the Cancer Registry. The committee consists of board-certified physician specialists and non-physician hospital staff representing hospital administration, quality assurance, social services, nursing, palliative care, pharmacy, cancer registry, and other cancer-related fields. The Interim Medical Director serving as Cancer Committee Chair ensures that the committee includes physicians representing the major cancer sites treated at St. Luke's.

MICHAEL APPEL, MD, GENERAL SURGERY
OMAR BARAKAT, MD, GENERAL SURGERY
ERIC BERNICKER, MD, CO-CHAIRMAN, HEMATOLOGY/MEDICAL ONCOLOGY
LUIS CAMACHO, MD, HEMATOLOGY/MEDICAL ONCOLOGY
L. STEVEN CARPENTER, MD, CHAIRMAN, RADIATION ONCOLOGY
CONCEPTION DIAZ-ARRASTIA, MD, GYNECOLOGIC ONCOLOGY
SUSAN ESCUDIER, MD, HEMATOLOGY/MEDICAL ONCOLOGY
LAWRENCE E. FOOTE, MD, HEMATOLOGY/MEDICAL ONCOLOGY
PAUL Y. HOLOYE, MD, HEMATOLOGY/MEDICAL ONCOLOGY
PHAN HUYNH, MD, BREAST IMAGING RADIOLOGY
GILCHRIST JACKSON, MD, GENERAL SURGERY
HSIN LU, MD, RADIATION ONCOLOGY
WARREN MOORE, MD, NUCLEAR MEDICINE
PRIYA RAMSHESH, MD, HEMATOLOGY/MEDICAL ONCOLOGY
PHILIP A. SALEM, MD, CO-CHAIRMAN, MEDICAL ONCOLOGY
LAURA SULAK, MD, PATHOLOGY
VILMOS THOMAZY, MD, PATHOLOGY
VIVEK YAGNIK, MD, RADIOLOGY
MARK LAROCCO, PhD, VICE PRESIDENT, EXECUTIVE OFFICES
CAROL AHSCHLAGER, CTR, SUPERVISOR, CANCER REGISTRY
VALERIE BARON, RN, DIRECTOR, ONCOLOGY SERVICE LINE
KURT BERK, AUXILIARY VOLUNTEER
MAUREEN BRUNETTI, RN, AMERICAN CANCER SOCIETY, MANAGER
MICHELLE CASSITY, CTR, CANCER REGISTRY, TUMOR BOARD COORDINATOR
JAMES COMEAUX, RPh, PHARMACY
PATRICK DENISON, RN, OCN, OUTPATIENT NURSE, RADIATION THERAPY
SHALONDA ERVIN, RN, OCN, NURSE MANAGER, OUTPATIENT ONCOLOGY
LUPE FUNK, CANCER REGISTRY
NATASHA MCCLURE, RN, MBA, NURSE MANAGER, INPATIENT ONCOLOGY
MARILYN NICKLEBERRY, RN, ONCOLOGY CASE MANAGER
DIANA RUFFIN, LMSW-ACP, SOCIAL WORKER, PALLIATIVE CARE
SOPAR SERIBUTRA, RN, CCRP, RESEARCH NURSE COORDINATOR
ELIZABETH WALKER, BA, CCRP, COORDINATOR, CANCER PROGRAM
CHAVA WHITE, LMSW-AP, CCM, SOCIAL SERVICE

The Oncology Collaborative Practice Team continues as the quality assurance subcommittee of the Cancer Committee. The committee is chaired by Eric Bernicker, MD, who is also the Quality Improvement Coordinator appointed by the Cancer Committee. Members of the Oncology Collaborative Practice Team (CPT) include physicians, nurses, administrators, pharmacist, social worker, and ancillary-care personnel who enhance all aspects of cancer patient care through quality initiatives in the hospital and the outpatient facilities. Quality care initiatives in 2010 included the following:

- The St. Luke's Pharmacy staff alerted physicians when chemotherapeutic and other drugs were in short supply. Substitutions were recommended when appropriate.
- Oncology CPT physicians reviewed the 2010 anti-neoplastic, non-formulary drug list. They eliminated a few drugs from the list; indicated "outpatient only" on some; and classified the remaining drugs as appropriate for the hospital's non-formulary classification. The list was approved by the Oncology Section and the Pharmacy and Therapeutics Committee. Physicians writing orders for non-formulary chemotherapeutic or anti-neoplastic agents must request individual approval from the Oncology Section chief or his appointees.
- Physicians and nurses developed and approved an updated physician order form for Rasburicase® and Bleomycin.®
- St. Luke's Radiation Therapy and CyberKnife® staff reported regular quality assurance measures on all the medical equipment before, during and after each radiation or radiosurgery procedure.
- Physicians and nurses updated and approved the "Pre-Registration for Chemotherapeutic Agents" policy.
- The Oncology CPT updated and approved the "Extravasation of Chemotherapeutic (Cytotoxic) Agents" policy. Pharmacy staff provided inservices and updates on chemotherapy extravasation for all inpatient oncology registered nurses.
- The Oncology CPT approved a "Time Adjustment Table for the HDAC Chemotherapy Regimen."

- The Oncology CPT updated and approved the policy that a physician's verbal orders for blood transfusion to the Blood Bank will be followed within 24 hours by the ordering physician's signed documentation on the patient's chart.
- Pharmacy staff notified physicians that effective in 2010, the Risk Evaluation and Mitigation Strategy (REMS), that includes erythropoiesis stimulation agents (ESAs) plus more than 100 medications, requires medication guidelines, physician certification and documentation before the Pharmacy can dispense the identified drugs.
- The oncology nursing staff made inpatient fall prevention a safety priority. The oncology nurse manager continues to monitor patient falls and provide fall prevention inservices.
- The outpatient pharmacist presented inservices on new drugs to the oncology outpatient infusion nursing staff. In addition, the outpatient nurse manager served as a resource on new drug education.
- The hematology/oncology physicians established with St. Luke's Main Admission Office staff a new system to ensure that physicians' orders are promptly sent to the oncology inpatient care unit on 20 Tower when a patient is being admitted to the oncology unit. This has resulted in reducing the delay of patient care.
- The chief of Radiology agreed that all radiologists will provide exact measurements in their interpretation of 2 or more tumors for cancer research patients and measurements on request for other patients. Physicians are urged to confer with the radiologists as needed.
- The oncology and radiation therapy nursing staff revised and updated radiation therapy policies. The nurse manager gives inservices to all registered nurses on the revised policies and changes.
- Inpatient oncology nursing staff made reduction of hospital-acquired infection rates related to Foley catheters and central venous catheters a priority.
- The inpatient oncology service is currently reviewing and revising the unit's Chemotherapy Certification Program.

St. Luke's Cancer Registry is a case-specific database of detailed information about each patient's type of cancer and is a central component of St. Luke's Cancer Program. Monitoring survival statistics and disease recurrence improves the standard of care for cancer patients by pointing out areas of concern that need attention, as well as providing data to launch new research studies and clinical trials. The Cancer Registry also provides data to research investigators to enhance the planning of clinical research trials.

The data contribute to treatment planning, staging and continuity of care for patients. The most current data reveal that in 2010, the registry abstracted 2,237 cancer cases and tracked former patients—maintaining a 95% follow-up rate. Laura Sulak, MD, pathologist, served as the Cancer Committee Coordinator of Quality Control of the Cancer Registry. In 2010, Dr. Sulak reviewed a minimum of 10% of all analytical cases and ensured accuracy of the data reporting. St. Luke's Cancer Registry is 100% compliant in reporting statistical data to the National Cancer Data Base and to the Texas Department of Health State Cancer Registry.



Carol Ahlschlager, CTR, supervisor, Cancer Registry, and Elizabeth Walker, coordinator, Cancer Program, interact at St. Luke's Cancer Committee.

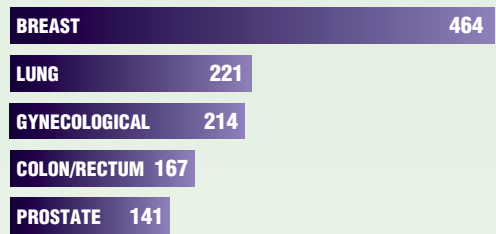
St. Luke's database has grown to 35,071 diagnosed cases since the reference date in 1992. The cancer registrars at St. Luke's remain actively involved in the Texas Tumor Registrars Association and participate in the National Cancer Registrars Association meetings. The Cancer Registry's vital role at the Cancer Center at St. Luke's also includes active involvement in and organization of 14 St. Luke's tumor boards and cancer conferences per month. All Cancer Registry operations meet the current Standards of the Commission on Cancer.

2010 CANCER SITE REPORT

SITE	CLASS OF CASE			SEX		AJCC STAGE AT DIAGNOSIS							
	A	N/A	Reportable	M	F	0	1	2	3	4	Unkn	NA	
All Sites (2237)	1883	287	67	885	1285	151	566	334	259	202	168	195	
Oral Cavity/Pharynx (22)	16	6	1	13	9	0	3	0	2	6	4	1	
Digestive System (431)	372	59	14	236	195	15	75	89	84	45	46	16	
Esophagus (8)	6	2	0	7	1	0	0	1	1	0	4	0	
Stomach (30)	26	4	1	16	14	0	10	2	4	3	5	1	
Small Intestine (16)	15	1	1	6	10	0	2	3	3	4	1	2	
Colon (137)	114	23	6	76	61	11	21	29	34	14	4	0	
Rectum (30)	27	3	2	17	13	1	9	2	6	1	8	0	
Liver (55)	46	9	3	42	13	0	19	11	4	7	3	2	
Pancreas (93)	80	13	2	41	51	0	5	30	17	12	16	0	
Other Digestive (62)	58	4	1	31	31	3	9	11	15	4	5	11	
Respiratory System (233)	212	21	3	125	108	4	57	18	41	68	23	1	
Lung (221)	200	21	3	115	106	2	54	18	36	67	22	1	
Larynx/Other Resp (12)	12	0	0	10	2	2	3	0	5	1	1	0	
Soft Tissue (13)	11	2	0	7	6	0	6	2	0	0	2	1	
Skin-Melanoma (23)	15	8	4	15	8	1	4	4	2	2	2	0	
Breast (464)	430	34	7	1	463	87	162	99	31	12	37	1	
Gynecology (214)	188	26	4	0	214	9	103	12	35	18	9	1	
Cervix Uteri (33)	28	5	0	0	33	1	5	2	17	6	2	0	
Corpus Uteri (104)	97	7	1	0	104	0	72	5	12	7	1	0	
Ovary (46)	33	13	2	0	46	0	5	2	17	6	2	0	
Other Gyn (31)	30	1	1	0	31	8	14	2	1	0	4	1	
Male Genital (154)	139	15	4	154	0	1	11	85	30	6	6	0	
Prostate (141)	127	14	3	141	0	0	5	83	28	6	5	0	
Other (13)	12	1	1	13	0	1	6	2	2	0	1	0	
Urinary (163)	141	22	6	124	39	34	61	13	11	11	10	0	
Bladder (88)	73	15	2	73	15	31	61	13	11	11	6	1	
Kidney (64)	59	5	3	40	24	1	40	2	9	5	2	0	
Other Urin (11)	9	2	1	11	0	2	3	1	0	1	2	0	
Brain & CNS (94)	67	27	10	39	55	0	0	0	0	0	0	67	
Thyroid (96)	91	5	2	25	71	0	58	6	14	6	7	0	
Lymphatic System (108) Hodgkin's/Non-Hodgkin's	87	21	6	62	46	0	25	5	9	27	19	1	
Blood/Bone Marrow (68)	48	20	4	42	26	0	0	0	0	0	0	48	
Unknown/Other (87)	66	21	2	42	45	0	1	1	0	1	3	58	

Reportable: Texas Cancer Incidence Reporting Act (Chapter 82, Health and Safety code) must adhere to the Texas Cancer Reporting criteria.
 References: American Cancer Society, Cancer Facts & Figures – 2010
 Analytic (A): diagnosed/treated at St. Luke's
 Non-analytic (N/A): diagnosed elsewhere

FIVE MAJOR SITES OF CANCER INCIDENCE AT ST. LUKE'S EPISCOPAL HOSPITAL IN 2010



PREVENTION AND EARLY DETECTION

SKIN CANCER SCREENING

A total of 146 people participated in the two St. Luke's Skin Cancer Screenings during May 2010.

In cooperation with the Houston Dermatological Society, the American Academy of Dermatology, and the American Cancer Society, the Cancer Center at St. Luke's sponsored free skin-cancer screenings on May 3, 2010. Board-certified dermatologists on staff at St. Luke's screened 125 participants with the assistance of 16 St. Luke's registered nurses who volunteered their time. As a result of the screenings, physicians referred 49 participants for follow-up exams. Three participants were suspicious for melanoma. The Cancer Center thanks Sylvia Hsu, MD, Rajani Katta, MD, and Suneel Chilukuri, MD, for volunteering their time to help members of the Houston community.



Clinical staff gather information from Houstonians awaiting skin cancer screening.

The Cancer Center at St. Luke's sponsored a second skin cancer screening at St. Luke's for employees on May 15, 2010. The screenings were held in the Employee Health Clinic at St. Luke's Episcopal Hospital. Ida Orengo, MD, board certified dermatologist specializing in Moh's surgery at the Baylor Clinic, volunteered her time and screened 21 employees. She referred six participants for biopsy and follow-up.

COLON CANCER PREVENTION AND AWARENESS

In March, 2010, the Cancer Center at St. Luke's co-sponsored a Colon Cancer Awareness exhibit on St. Luke's Skybridge with St. Luke's Endoscopy nursing staff and provided educational materials from the American Cancer Society on colon cancer. The nursing staff answered questions about

colonoscopies, endoscopies and other preventive tests for colon cancer.

On St. Luke's intranet ("The Source"), the Cancer Center at St. Luke's published an informative article promoting colon cancer screening, including the screening guidelines from the American Cancer Society. The article, which included the symptoms of colon cancer and a link to the American Cancer Society, was distributed to about 4,000 employees.

BREAK FREE SMOKING CESSATION PROGRAM

The Break Free smoking cessation program, in coordination with St. Luke's O'Quinn Medical Tower non-invasive, cardiology outpatient clinic, provided employees and patients with access to smoking cessation education. St. Luke's Episcopal Health System provides a tobacco-free environment for our patients, visitors and staff. St. Luke's will provide support when a person is ready to stop smoking. The program is ongoing throughout the year. St. Luke's Tobacco Cessation Clinic can be reached at 832-355-8224.

PUBLIC EDUCATION

On July 17, 2010, Susan Escudier, MD, presented a colon cancer educational lecture to participants at the Bible Way Fellowship Baptist Church health fair.

On July 24, 2010, Steven Carpenter, MD, presented a cancer awareness lecture with a question-and-answer period to a group at the Lyons Unity Missionary Baptist Church health fair.

On August 14, Luis Camacho, MD, presented an educational lecture on colon cancer and other types of cancer at the Sloan Memorial United Methodist Church health fair.

AMERICAN CANCER SOCIETY GREAT AMERICAN SMOKEOUT

In November 2010, the Cancer Center, in collaboration with the American Cancer Society, sponsored a Great American Smokeout exhibit on St. Luke's Skybridge with educational materials on smoking cessation.

ST. LUKE'S ANNUAL PALLIATIVE CARE MEMORIAL SERVICE was held in the St. Luke's Denton A. Cooley Auditorium on November

6, 2010, at 2:00 p.m. The program provided a means for families and friends to celebrate and honor the lives of cancer patients and other deceased patients. The Palliative Care Service sponsored the event.

AMERICAN CANCER SOCIETY'S LOOK GOOD, FEEL BETTER PROGRAM

The Look Good, Feel Better Program offers women in active cancer treatment, or who are about to start active cancer treatment, a free program that teaches beauty techniques while they undergo treatments. The ACS provides a trained volunteer cosmetologist to teach women how to cope with skin changes and hair loss using cosmetics and skin care products donated by the cosmetic industry. The free cosmetic kits provided at these group sessions are available in variable shades. Wigs and scarves are also available. The program is held once a month at St. Luke's Radiation Therapy and CyberKnife facility, 2491 S. Braeswood at Kirby Drive in Houston. Parking is provided free of charge.

CANCER CENTER AT ST. LUKE'S WEBSITE

The Cancer Center at St. Luke's website is continuously being updated and revised with a new format. The Cancer Center pages include digital copies of the annual reports, beginning with the 2009 and the 2010 annual reports. The website will follow through with information on different treatments and diagnostic technologies available at St. Luke's, as well as a list of cancer clinical trials available to the public.

ST. LUKE'S AUXILIARY ONCOLOGY VOLUNTEERS

St. Luke's Auxilian and Volunteer Service Line Chairman, Kurt Berk, continues comfort visits to oncology inpatients and outpatients at St. Luke's. Mr. Berk has been volunteering for 15 years. Helen Weber of St. Luke's Auxiliary brings the Comfort Cart to the 20 Tower inpatient oncology care unit and delivers complimentary sundries and supplies to patients and their families. Other Auxiliary volunteers who visit cancer patients at St. Luke's include Neal Valk, Francisca Nicolson, and Bill McCall (CanCare). In both the inpatient and outpatient care areas, the oncology volunteers distribute guardian angel pins, heart pillows, prayer blankets, sleep caps, turbans, and other comforts. Several CanCare volunteers have joined the St. Luke's

Auxiliary and they represent the CanCare network of one-on-one support.

CANCER PATIENT SUPPORT NETWORK

Pastoral Care chaplains visit patients on the inpatient and outpatient care units to offer comfort. Organizations such as the Leukemia & Lymphoma Society, Sickle Cell Association of the Gulf Coast, Cancer Counseling, the American Cancer Society, and the National Cancer Institute provide literature and a continuum of support services for discharged patients and their families.

IACAN

IACAN is the Indian American Cancer Network, whose mission is to provide a diverse resource network that will address the distinct cultural and psychosocial needs of people of South Asian descent affected by cancer. Monthly seminars are held at India House in Houston. The group also provides language assistance, a buddy system, and dietary guidance.

ONCOLOGY PATIENT EDUCATION LIBRARIES AND RESOURCE CENTERS

Patient education libraries are located on the oncology inpatient care unit and at the oncology outpatient infusion center. The libraries offer patients information from the National Cancer Institute, the American Cancer Society, and other organizations. Oncology nurses and the ancillary staff also provide individualized cancer education to patients and family members. Computers are available for patients to use for relevant web searches.

CANCER AWARENESS

SUSAN G. KOMEN RACE FOR THE CURE 2010-HOUSTON

The Cancer Center at St. Luke's coordinated and supplied back packs with medical supplies for the first-aid team of 14 St. Luke's volunteer registered nurses. The nurses provided first-aid along the entire race course at the Race for the Cure held October 2, 2010, in downtown Houston. St. Luke's Women's Center organized a special team to participate in the Race. More than 35,000 Houstonians and surrounding community supporters participated in this breast cancer awareness



More than 230 people joined the St. Luke's team for the 2011 Houston Komen Race for the Cure, held October 1, 2011. Together, the team raised more than \$11,000 in support of breast cancer awareness, treatment and research.

event. As a Gold sponsor for the event, St. Luke's Episcopal Health System and its Corporate Communication staff and volunteers distributed race towels at the St. Luke's booth, as well as sponsored a team. Proceeds from the event are used to award grants for breast cancer research and community breast cancer screening projects in the Houston area.

ACS MAKING STRIDES AGAINST BREAST CANCER

Several members of St. Luke's nursing staff and several employees participated in the ACS Making Strides Against Breast Cancer walk held at the University of Houston on May 1, 2010. The event raises donations and awareness to fight the disease. The event celebrates people who have battled breast cancer, educates people about ways to reduce their risk, and empowers communities to join the fight.

ACS RELAY FOR LIFE

The Cancer Center supported the Texas Medical Center American Cancer Society Relay for Life in April 2010. The event celebrates those who have battled cancer and raises funds for the local American Cancer Society.

- AMERICAN COLLEGE OF SURGEONS COMMISSION ON CANCER ACCREDITATION: 2008-2011 AS A TEACHING HOSPITAL CANCER PROGRAM
- RECIPIENT OF THE COMMISSION ON CANCER OUTSTANDING ACHIEVEMENT AWARD 2008 SURVEY
- MULTIDISCIPLINARY CANCER COMMITTEE
- MEDICAL DIRECTOR OF THE CANCER CENTER AT ST. LUKE'S
- CANCER REGISTRY WITH AUTOMATED DATA MANAGEMENT AND PATIENT FOLLOW-UP, AND NATIONAL CANCER DATA BASE AND STATE OF TEXAS CANCER REGISTRY PARTICIPANT
- PATIENT CARE EVALUATION AND QUALITY CARE OUTCOMES STUDIES
- CANCER PREVENTION, EDUCATION, AND SCREENING PROGRAMS
- ONCOLOGY PATIENT EDUCATION LIBRARIES AND RESOURCE CENTERS LOCATED ON THE ONCOLOGY INPATIENT CARE UNIT AT ST. LUKE'S EPISCOPAL HOSPITAL AND AT THE CANCER CENTER AT ST. LUKE'S OUTPATIENT SERVICES LOCATION
- FOURTEEN MULTIDISCIPLINARY CANCER CONFERENCES AND TUMOR BOARDS EACH MONTH, DESIGNATED BY ST. LUKE'S EPISCOPAL HOSPITAL FOR 1 HOUR OF CATEGORY 1 CME CREDIT AWARDED THROUGH ST. LUKE'S TEXAS HEART® INSTITUTE.
- PROFESSIONAL EDUCATION OPPORTUNITIES FOR THE MEDICAL AND NURSING STAFFS
- CLINICAL TRIALS AND CANCER RESEARCH PROGRAM AFFILIATED WITH NSABP, SPORE, CCOF, INDUSTRY AND OTHERS
- COMMUNITY OUTREACH PROGRAMS: EDUCATION, EARLY DETECTION AND SCREENING
- ONCOLOGY SERVICE AUXILIARY VOLUNTEERS FOR PATIENT VISITATIONS
- FULL RANGE OF SERVICES FOR DIAGNOSIS AND TREATMENT OF CANCER
- BOARD-CERTIFIED PHYSICIANS AND ONCOLOGY SPECIALISTS
- ONCOLOGY CERTIFIED NURSING STAFF/MAGNET NURSING AWARD
- DEDICATED 34-BED ONCOLOGY INPATIENT CARE UNIT AND 13-STATION CANCER CENTER AT ST. LUKE'S OUTPATIENT ONCOLOGY INFUSION CENTER
- THREE-VAULT ST. LUKE'S RADIATION THERAPY AND CYBERKNIFE® CENTER
- SERVICE LINE MANAGEMENT FOR CONTINUUM OF CARE
- ST. LUKE'S RESIDENCY PROGRAM AND ACADEMIC AFFILIATIONS WITH BAYLOR COLLEGE OF MEDICINE AND THE UNIVERSITY OF TEXAS MEDICAL SCHOOL AT HOUSTON
- PALLIATIVE CARE SERVICE
- REHABILITATION AND PHYSICAL THERAPY
- PAIN MANAGEMENT NURSE
- DIETITIAN FOR ONCOLOGY INPATIENTS AND OUTPATIENTS
- ONCOLOGY SOCIAL SERVICE PROFESSIONAL
- MAMMOGRAPHY PROGRAM ACCREDITED BY THE AMERICAN COLLEGE OF RADIOLOGY AND THE STATE OF TEXAS
- PATHOLOGY DEPARTMENT AND LABORATORY ACCREDITED BY THE COLLEGE OF AMERICAN PATHOLOGISTS (CAP) AND DEPARTMENT OF HEALTH AND HUMAN SERVICES CLIA LABORATORY CERTIFICATION
- ST. LUKE'S EPISCOPAL HOSPITAL ACCREDITED BY THE JOINT COMMISSION FOR ACCREDITATION OF HEALTHCARE ORGANIZATIONS (JCAHO)
- ST. LUKE'S EPISCOPAL HOSPITAL ACCREDITED BY DNV (DET NORSKE VERITAS)

TUMOR BOARDS AND CANCER CONFERENCES

Some 134 tumor boards and cancer conferences were held during calendar year 2010. All the tumor boards sponsored by the Cancer Center at St. Luke's are approved for one hour of CME Category I by the Texas Medical Association.* The Radiology/GI Conferences have not yet been CME-approved, but are very well attended. St. Luke's medical staff members presented approximately 604 cancer cases throughout the year in the multi-disciplinary forums, with more than 822 physicians attending the conferences during the period January to December, 2010. During that year, 641 allied health staff also attended the tumor boards, resulting in a grand total of 1,463 professional staff in attendance from January to December, 2010. Specialty tumor boards and cancer conferences include:

- Gynecological Oncology Tumor Board – weekly
- Pancreas Tumor Board – weekly
- Hematological Malignancies Tumor Board – monthly
- Thoracic Tumor Board – monthly
- Neuroscience Tumor Board – monthly
- Kelsey-Seybold Tumor Board – monthly
- Breast Cancer Conference – monthly
- GI/Radiology Conference – weekly

*St. Luke's Episcopal Hospital is accredited by the Texas Medical Association to provide continuing medical education for physicians. Beginning in 2011, the Texas Heart® Institute will be the CME provider for all the tumor boards.

St. Luke's Episcopal Hospital designates these educational activities for a maximum of 1 AMA PRA Category 1 Credit™ per tumor board occurrence. Physicians should claim only credit commensurate with the extent of their participation in the activity.

ONCOLOGY CERTIFIED NURSING EDUCATION

St. Luke's oncology nursing staff is actively engaged in continuing education. Oncology nurses participate in oncology certification programs with the Oncology Nursing Society. These certifications help ensure that the staff members—in addition to offering compassion to their patients—are well equipped with the best oncology patient-care skills, safety standards and techniques.

Oncology nurses learn hospital policies and procedures as they relate to Oncology. The nurses are then skill-certified by the nurse educator. Frequent inservice training reinforces their skills and training.



Arthur Bracey, MD, presents a lecture on adverse outcomes of blood transfusions to physicians and students at Internal Medicine Grand Rounds, September 2011.

ONCOLOGY NURSING INSERVICES

Risa Chosed, BSN, RN, OCN, and Rosalyn Jones-Waters, RN, OCN, organized and developed educational inservices in 2010 for the nursing staff and ancillary staff. A series of lectures included the following:

- ABC's of Hepatitis, by Wayne Goshier
- Tumor Markers, by Rosalie Lumohan, RN, and Augusta Okoronkwo, RN
- Web Scheduler
- Nutrition and Cancer, by Jenny Koetting, RD
- Novel Approaches for the Treatment of Diffuse Large B-Cell Lymphoma, by Julie Vose, MD
- Understanding DIC "An Oncologic Emergency," by Lisa Aranas, RN
- DVT Awareness, by Meredith LeBraun
- Endometrial Cancer, by Rustica Bautista, RN and Fatima Salaam-Ang, RN

ST. LUKE'S INTERNAL MEDICINE GRAND ROUNDS

The following physicians presented oncology lectures to the physicians, interns, medical students, nursing staff and ancillary staff. A question-and-answer period followed each lecture:

- "Development of Anti-Cancer Therapies: A Perspective and Future Challenges," Luis Camacho, MD, June 14, 2010

- "The Effect of Gene Therapies on Future Cancer Treatments," Kirk Heyne, MD, August 16, 2010

CANCER REGISTRY PROFESSIONAL EDUCATION

Carol Ahlschlager, CTR, Supervisor of the Cancer Registry, attended the National Cancer Registrar's 36th Annual Educational Conference, Palm Springs, California, that began April 21, 2010, and participated in an ACoS Division of Education webinar on GI staging, September 16, 2010. Lupe Funk, cancer registrar, attended the Texas Cancer Registrar's Association (TxTRA) annual meeting in Corpus Christi, October 13-15, 2010. Michelle Cassidy, CTR, participated in three ACoS Division of Education webinars: "What's New in GI Staging: Gastrointestinal Stromal Tumors, Neuroendocrine Tumors of the GI Tract, and Endocrine Tumors of the Pancreas," "Shaping the Future—An Overview Presentation on the 7th Edition AJCC Cancer Staging Manual," and "The New Staging System for Lung Cancer—A Clear View of Prognosis, 7th Edition of AJCC Cancer Staging Manual."

CLINICAL RESEARCH EDUCATION

Sopar Seributra, RN, CCRP, and Elizabeth Walker, BA, CCRP, both members of and certified by the Society of Clinical Research Associates (SoCRA) and CITI Human Research Protection Certification, participated in educational research seminars and certifications in the Texas Medical Center

in Houston, Texas, and web-based seminars including:

- CITI Good Clinical Practice Curriculum, CITI Collaborative Institutional Training Initiative 2010 – Human Research Protection Certification
- UT M.D. Anderson Cancer Center: Community Clinical Oncology Program (CCOP) Research Base Annual Investigator Meeting 2010
- Baylor College of Medicine Research Investigator/Coordinator Workshop, March 2010
- SoCRA: Social Networking: Breakthrough in Patient Recruitment, March 2010
- 2010 Update – Standard Operating Procedures for Research, St. Luke's Episcopal Hospital Department of Research
- Responsibilities of the Clinical Investigator: What You Must Do to Ensure Trial Compliance, St. Luke's Episcopal Hospital Department of Research, January 2010
- Reportable Events in Research, The Methodist Hospital Research Institute, September 2010
- Device and Drug Development: Similarities and Differences (ACRP), St. Luke's Episcopal Hospital Department of Research, August 2010

St. Luke's Cancer Center offers patients access to frontline cancer research by providing clinical trials led by physician investigators specializing in oncology. Investigators offer national clinical studies, as well as original hospital-based studies. Contact St. Luke's Cancer Research Program Office at 832-355-6777 for more information.

BREAST CANCER PREVENTION

SLEH 2006 Study of Tamoxifen and Raloxifene in the Prevention of Breast Cancer (STAR – NSABP). Contact Sopar Seributra, RN, Nurse Coordinator for STAR Study at 832-355-6777. *PI – Philip A. Salem, MD, et al.* (Follow-up only. Closed to accrual.)

COLON CANCER PREVENTION

SLEH 3103 – NSABP P-5 Statin Polyps Prevention Trial in Patients with Resected Colon Cancer. *PI – David A. Thompson, MD, and Susan Escudier, MD.* Open to accrual. Contact Sopar Seributra, RN, CCRP, cancer research nurse, at 832-355-6777.

COMMUNITY CLINICAL ONCOLOGY PROGRAM (CCOP)

CCOP – Community Clinical Oncology Program w/ MDACC – Phase II Randomized, Double-Blind Comparison of CASAD versus Placebo for the Treatment and Prevention of Diarrhea in Patients with Metastatic Colorectal Cancer. *PI – Philip A. Salem, MD.* Open to accrual.

CYBERKNIFE®

ReCKord CyberKnife® Registry Protocol. SLEH 2954. *PI – L. Steven Carpenter, M.D.*

GYNECOLOGIC ONCOLOGY

A Multi-Center Prospective Clinical Study to Evaluate the Performance and Clinical Predictive Value of the Invader HPV HR Molecular Assay and Invader HPV 16/18 Molecular Assay for the Detection of Human Papillomavirus in Cervical Cytology Samples (DP0517). *PI – Matthew L. Anderson, MD.*

MicroRNAs as Prognostic and Diagnostic Targets in Gynecologic Cancers (H-22119). *PI – Matthew L. Anderson, MD.*

Multi-Center, Randomized, Double-Blind, Phase III Efficacy Study Comparing Phenoxodiol (Oral Dosage Form) in Combination with Carboplatin Versus Carboplatin with Placebo in Patients with Platinum-Resistant or Platinum-Refractory

Late-Stage Epithelial Ovarian, Fallopian or Primary Peritoneal Cancer Following at Least Second Line Platinum Therapy (NV06-0039). *PI – Matthew L. Anderson, MD.*

A Phase II, Multicenter, Randomized, Double-Blind, Placebo-controlled Trial Evaluating the Efficacy and Safety of GDC-0449 as Maintenance Therapy in Patients with Ovarian Cancer in a Second or Third Complete Remission (SHH4489G). *PI – Matthew L. Anderson, MD.*

Novel Prognostic Markers and Associated Outcomes in Cervix Cancer. *PI – Matthew L. Anderson, MD.*

The Role of X Chromosome Inactivation in Ovarian Cancer Pathogenesis and Treatment (H-23229). *PI – Matthew L. Anderson, MD.*

LUNG CANCER

International Randomized Study to Compare CyberKnife® Stereotactic Radiosurgery with Surgical Resection in Stage I Non-Small Cell Lung Cancer: (H-25703). *PI – L. Steven Carpenter, MD, 2009.* Open to accrual.

PANCREAS CANCER

NLG-0405: A Phase III Study of Hyperacute-Pancreatic Cancer Vaccine in Combination with Chemotherapy and Chemoradiotherapy in Subjects with Surgically Resected Pancreatic Cancer. (H-24846). *PI – William Fisher, MD.* Open for accrual.

A Randomized, Double-Blind Placebo-Controlled Phase II Study of the MEK Inhibitor GSK 1120212 Plus Gemcitabine vs. Placebo Plus Gemcitabine in Subjects with Metastatic Pancreatic Cancer. *PI – William Fisher, MD.* Open for accrual.

Pancreas Center Tissue Bank Specimen Collection. (H-16215). *PI – William Fisher, MD.* 2005-2009 and ongoing.

PROSTATE

SPORE Tumor Marker Data: St. Luke's urologists who are SPORE investigators participate in SPORE data collection and represent research excellence in prostate cancer clinical trials. St. Luke's Cancer Registry participates in data collection. Ongoing.

by Ajjai Alva, MD

“At St. Luke’s, the close interaction among genitourinary pathologists, urologists, medical oncologists and radiation oncologists is a unique advantage permitting rapid and accurate diagnosis and prompt treatment.”

In 2010, nearly 70,000 new cases of bladder cancer were diagnosed in the U.S., and 15,000 deaths were reported. It is the fourth most common cancer in men and occurs three times more often in men than in women, for whom it is the ninth most common cancer. Overall, bladder cancer is the fifth most common cancer.

The incidence of bladder cancer increases with age. Most diagnoses are made in patients in their 60s, with whites diagnosed twice as frequently as other ethnic groups. Its known causes include tobacco use and exposure to chemicals used in rubber and leather-processing, textiles, paints, and printing. In addition, chronic irritation of the bladder from indwelling catheters is a risk factor for certain types of bladder cancer.

Bladder cancer classically presents with visible blood in the urine, initially without pain. Occasionally, bleeding is profuse and may cause clots and urinary obstruction, while at other times, bleeding is intermittent. Work-up and diagnosis require urine analysis, visualization of the interior of the bladder by a cystoscopy performed by a urologist, and biopsies of bladder tissue supplemented by imaging of the urinary tract via ultrasound, CT, or MRI. In general, biopsies at bladder tumor resection should include a specimen from the deep muscle layer. The pathologist’s interpretation of the biopsies provides crucial data, including stage, grade, and histology. Clearly, an adequate biopsy and accurate interpretation are essential for optimal diagnosis and treatment planning.

Bladder cancer almost always arises from the lining or epithelium of the urinary bladder and at diagnosis may either be confined to the lining or invade deeper into underlying muscle and beyond. Approximately 75% of bladder cancers are confined to the lining at diagnosis, but the rest are muscle-invasive, occasionally even extending to adjacent organs. Muscle-invasive bladder cancer carries a high risk of spread to distant organs via the blood stream and lymph vessels. Papillary bladder tumors appear as finger-like growths from the inner surface of the bladder, and these tend to be low grade or less aggressive bladder cancers. However, about 15% of these invade more deeply. Carcinoma-in-situ (CIS or Tis) is a superficial pre-cancerous abnormality but has a high risk of transforming into invasive cancer over time. More than 90% of bladder cancers are called transitional cell carcinoma (TCC) based on their appearance under the microscope, also known as urothelial carcinoma. Squamous cell carcinoma, adenocarcinoma and other histological types account for the rest.

Treatment varies with the stage at diagnosis. Tumors confined to the lining (Stages Ta, T1) can be removed by cystoscopy. Often, such tumors recur at a rate of up to 80 percent, not only in the bladder but at other sites along the urinary tract, necessitating close endoscopic surveillance, including regular cystoscopies. In fact, the need for this long-term surveillance makes bladder cancer the most expensive



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Oncology Section,
Internal Medicine,
Baylor College of Medicine and
St. Luke’s Episcopal Hospital

cancer to treat on a per-patient basis. Instillation of Bacillus Calmette Guerin (BCG) or mitomycin C directly into the bladder lining during cystoscopy may decrease the risk of recurrence. However, the side effects of these instillations include bladder spasms and symptoms mimicking urinary infections. There is also a 20-25% risk of these cancers becoming muscle-invasive despite treatment.

MUSCLE-INVASIVE BLADDER CANCER

Muscle-invasive bladder cancer (MIBC), Stage 2 and beyond, is an aggressive form of bladder cancer and is diagnosed from accurate cystoscopic biopsy that includes a piece of the deep muscle layer. Work-up includes scans or chest X-rays, imaging of the entire urinary tract, blood work, and, in some cases, bone scans. The standard treatment for muscle-invasive bladder cancer is surgical removal of the bladder, or radical cystectomy. Lymph nodes on both sides of the pelvis are removed at the same time in order to identify possible involvement with cancer, which would forecast a negative outcome.

In certain cases where surgery is not feasible, radiation therapy to the bladder can control disease in the bladder and palliate symptoms such as bleeding or pain.

Recovery from cystectomy takes 4-6 weeks, and a common side effect is urinary incontinence. Robotic cystectomy is increasingly common and holds potential for faster recovery and fewer complications. With cystectomy, a new conduit for urine flow becomes necessary. Options include diversion into a bowel loop, which then opens through a stoma onto the abdominal wall. Surgical techniques permitting self-catheterization of a diversion pouch can preserve continence. Creation of an artificial bladder fashioned from a portion of bowel and implanted at the original bladder site (‘neobladder’) can also preserve urinary continence.

Recent data from U.S. and European clinical trials have shown an improvement in survival for patients with MIBC who are treated with combination chemotherapy prior to surgery (neoadjuvant chemotherapy) compared to surgery alone. The rationale for neoadjuvant chemotherapy is that early treatment avoids the potential spread of cancer cells to the blood and distant organs. Patients are also likely to tolerate chemotherapy better before surgery than after. Chemotherapy can sometimes be administered after surgery and sufficient recuperation for advanced cancer that has spread outside the bladder or to the lymph nodes.

In far advanced bladder cancer in which surgery is not an option or has failed, the primary treatment is intravenously administered chemotherapy (systemic chemotherapy). Chemotherapy for MIBC consists of a combination of drugs and includes cisplatin in eligible patients. Common chemotherapy regimens used to treat MIBC are methotrexate-vinblastine-adriamycin-cisplatin (MVAC) and gemcitabine-cisplatin (GC). Cisplatin use requires careful selection of appropriate patients and close monitoring for toxicities, including

FIGURE 1
ST. LUKE'S VS. NCDB STATISTICS
STAGE AT DIAGNOSIS OF BLADDER CANCER 2000-2008

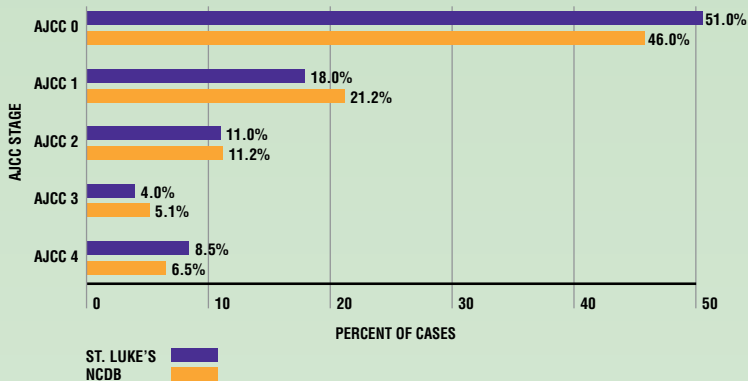


FIGURE 2
ST. LUKE'S VS. NCDB STATISTICS
AGE AT DIAGNOSIS OF BLADDER CANCER 2000-2008

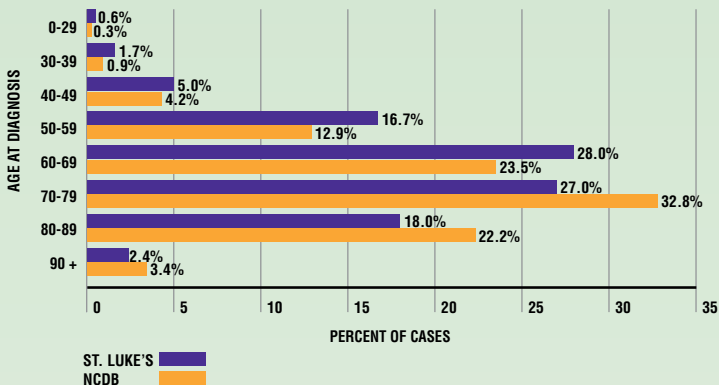
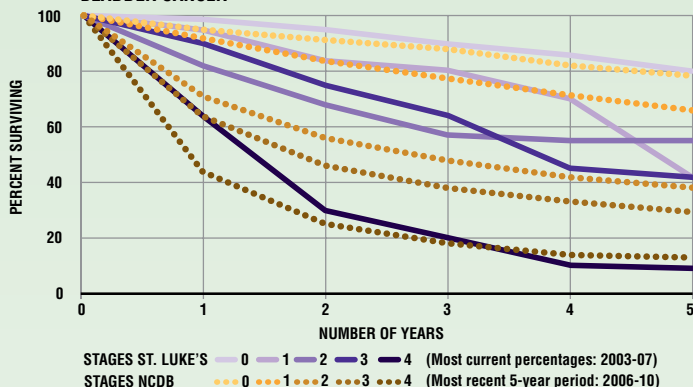


FIGURE 3
ST. LUKE'S VS. NCDB 5-YEAR SURVIVAL BY AJCC STAGE
BLADDER CANCER



ST. LUKE'S EXPERIENCE

For the period 2000-2008, St. Luke's cancer registry identified 544 bladder cancer patients, just slightly over half of whom (51%) were diagnosed at Stage 0. This percentage is slightly higher than the 46.04% diagnosed at Stage 0 as reported by the National Cancer Data Base (NCDB). See Figure 1.

Certainly the great difference between the number of patients included in the NCDB—381,894—vs. the number seen at St. Luke's Episcopal Hospital—544—reduces the significance of the comparison. Still, it is of interest to note that at nearly all stages, the St. Luke's percentages are close to those of the national statistics. Only the percentage of patients diagnosed at Stage 4 at St. Luke's—8.5%—is somewhat higher than the 6.48% diagnosed nationally at Stage 4. This may partially be accounted for by the difference in total numbers of patients seen.

When it comes to the ages at which patients are diagnosed at St. Luke's and nationally, the percentages are very similar through the decades. See Figure 2. At St. Luke's, a somewhat higher percentage of patients are diagnosed in every decade through age 60-69 than are reflected in NCDB statistics, and at St. Luke's, a somewhat lower percentage of patients are diagnosed at over 70 years of age than the national percentages. However, the differences are not so great as to merit special analysis.

A comparison between St. Luke's and NCDB on the issue of survival over a five-year period is of some note: it is gratifying to see that at nearly every time point, the percentage of patients surviving is somewhat higher at St. Luke's. See Figure 3. The only exception to this generalization is the higher survival rate in Stage 1 and Stage 4 of NCDB patients by years 4 and 5 of the data-gathering. It is also unclear why St. Luke's Stage 1 survival rate is lower than its Stage 2 survival rate by the end of the 5-year period. One likely explanation for this is St. Luke's lower number of patients diagnosed at Stage 2 than Stage 1.

Overall, St. Luke's experience is very similar to that of the NCDB—with a few higher percentages of special note.

SUMMARY

At St. Luke's, the close interaction among genitourinary pathologists, urologists, medical oncologists and radiation oncologists is a unique advantage permitting rapid and accurate diagnosis and prompt treatment. Clinical trials are under way to explore drugs such as gemcitabine that might be instilled into the bladder and that may be more effective than current approaches.

The increasing understanding of the molecular derangements in bladder cancer has permitted a rational approach to improving outcomes from bladder cancer. Potential targets include those proteins that promote tumor growth and the formation of cancer blood vessels. Ongoing trials are testing new targeted drugs, either alone or in combination with conventional chemotherapy in both first-time (previously untreated) and second-line cases. Cellular pathways of interest for targeted therapy include the Epidermal Growth Factor Receptor (EGFR), also known as the Human Epidermal Receptor (HER) pathway. The availability of new drugs that block such tumor-growth pathways as well as detailed analysis of each patient's individual tumor for derangements in specific pathways renew hope for personalized medicine to successfully treat bladder cancer.

kidney and nerve damage, hearing loss, decline in blood counts and nausea. Aggressive hydration is vital. The response rates with initial cisplatin-based chemotherapy for advanced bladder cancer are around 50%. However, if the cancer persists or recurs after initial chemotherapy, the cancer is much more chemoresistant. Although there is no standard second-line chemotherapy, a variety of chemotherapy drugs have moderate efficacy.

by William E. Fisher, MD, FACS

“St. Luke’s multidisciplinary approach, advanced diagnostics, and specialized treatments, particularly outstanding surgical outcomes, have made us a recognized center of excellence in pancreatic cancer treatment.”

With an overall 5-year survival rate of under 5 percent, pancreatic cancer continues to carry the worst prognosis of all cancers. In the United States in 2011, an estimated 44,030 new cases will be diagnosed and nearly as many (37,660) deaths will occur. However, in the last five years, there have been advances in diagnosis, some modest improvement in treatment, and continued optimism that the tireless efforts of researchers will result in meaningful advances.

DIAGNOSTIC EVALUATION

At St. Luke’s Episcopal Hospital, we have used state-of-the-art technologies to improve the diagnosis and staging of pancreatic cancer. Currently, the best diagnostic test is multidetector high-resolution CT imaging using a pancreas-specific protocol. We believe multidisciplinary review of CT scans by radiologists and clinicians with a special interest and expertise in pancreatic cancer at our weekly pancreas tumor board improves the accuracy of staging and decreases the occurrence of nontherapeutic laparotomy. In select cases, diagnostic laparoscopy has also been employed to carefully select patients for surgery.¹ Another key component of our ability to diagnose and stage pancreatic cancer is the availability of expert advanced endoscopy. Cystic lesions of the pancreas are emerging as important premalignant lesions, and discerning which cystic lesions pose threat from those that are benign requires expertise in endoscopic ultrasound (EUS).

In addition, St. Luke’s is one of the few centers in the U.S. with expertise in “spy-glass” endoscopy, a means of directly assessing the pancreatic or bile duct to take tissue samples under direct vision using a 6,000-pixel fiberoptic probe. Ensuring that we have specially trained and expert clinicians with the most advanced equipment at their disposal has led to a high level of accuracy in diagnosis and staging for pancreatic cancer.

TREATMENT MODALITIES

The treatment decisions required in the care of patients with pancreatic cancer are often complex and are best made with the collective input of surgical, medical and radiation oncologists, gastroenterologists, diagnostic radiologists, and pathologists. Our team of specialists works together at our Multidisciplinary Clinic and Pancreas Tumor Board to analyze each patient’s case and make the best possible individualized treatment recommendations.

Surgery continues to give us the best chance for a meaningful increase in survival. At St. Luke’s, we have doubled the volume of pancreas resections performed in the last five years, now performing well over 50 Whipple procedures yearly. Our surgical outcomes compare very favorably to national statistics with a less than 1% mortality rate. We are also offering cutting-edge surgical therapy, including a laparoscopic approach in selected cases. In addition, St. Luke’s has acquired NanoKnife®, which uses irreversible electroporation to destroy tumor cells. We are exploring the



William E. Fisher, MD, FACS

Director, Elkins Pancreas Center; Professor, Michael E. DeBakey Department of Surgery, Baylor College of Medicine

potential use of this new modality in cases of locally advanced Stage 3 pancreatic cancer that would otherwise be unresectable.

St. Luke’s is also one of few centers in the U.S. with the CyberKnife, a modality used to treat pancreatic cancer in patients who are poor surgical candidates, as well as those for whom surgery or other treatments have failed. Two clinical studies from Stanford University^{2,3} have shown that pain and the growth of pancreatic tumors in patients with advanced disease have been controlled by CyberKnife radiosurgery. The placement of fiducials in the tumor allows the CyberKnife to accurately track tumor movement in real time during respiration and zero in on the tumor, delivering effective doses of radiation in just a few sessions without damaging surrounding normal tissue. The treatment is painless and very well tolerated by most patients regardless of their other medical conditions.

This year the results were reported of a randomized prospective trial comparing combination chemotherapy with oxaliplatin, irinotecan, fluorouracil, and leucovorin (FOLFIRINOX) to gemcitabine as first-line therapy in patients with metastatic pancreatic cancer.⁴ The median overall survival was 11.1 months in the FOLFIRINOX group as compared with 6.8 months in the gemcitabine group (hazard ratio for death, 0.57; 95% confidence interval [CI], 0.45 to 0.73; P<0.001). More adverse events were noted in the FOLFIRINOX group; 5.4% of patients in this group had febrile neutropenia. FOLFIRINOX is now considered an option for treating patients with metastatic pancreatic cancer who have good performance status. L. Steven Carpenter, MD, and Benjamin Musher, MD, at St. Luke’s and Baylor College of Medicine, have recently designed a clinical trial combining FOLFIRINOX with CyberKnife radiosurgery for patients with locally advanced pancreatic cancer.

During the past five years, the Pancreas Center at St. Luke’s has offered a number of clinical trials involving gene therapy, immunotherapy, targeted therapy with VEGF and EGF inhibitors, monoclonal antibodies and small molecules, and agents designed to circumvent chemotherapy resistance. Here, our clinicians firmly believe that all patients with a diagnosis of pancreatic cancer should be offered participation in a clinical trial.

THE PANCREATIC EXPERIENCE AT ST. LUKE’S

Comparison of Statistics at St. Luke’s in 2004 Study Report versus Current 2010 Study Report

The Cancer Committee recommended updating the state of pancreatic cancer at St. Luke’s since last reported in 2004. In the year 2004, St. Luke’s reported treating a total of 53 pancreatic cancer patients, while in the year 2010, the Cancer Registry reports 93 pancreatic cancer cases at St. Luke’s. A 2004 Stage at Diagnosis study covering 1992-2004 statistics at St. Luke’s showed 27% of the pancreatic cancer cases were diagnosed at Stage 2; and in 2010 statistics covering 2005-2010 showed 37% of pancreatic cases are diagnosed at Stage 2.

FIGURE 1
ST. LUKE'S VS. NCDB STATISTICS
STAGE AT DIAGNOSIS OF PANCREATIC CANCER 2000-2008

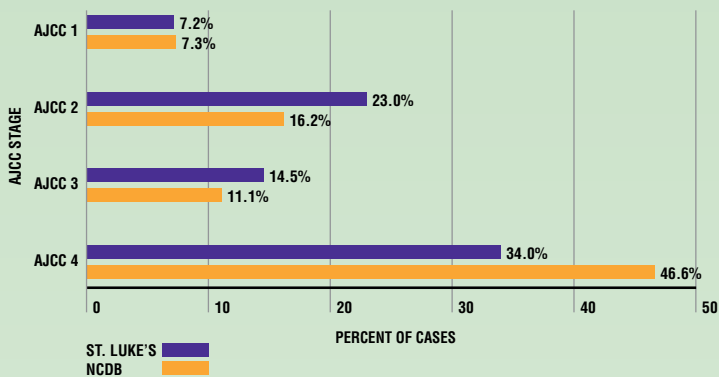


FIGURE 2
ST. LUKE'S VS. NCDB STATISTICS
AGE AT DIAGNOSIS OF PANCREATIC CANCER 2000-2008

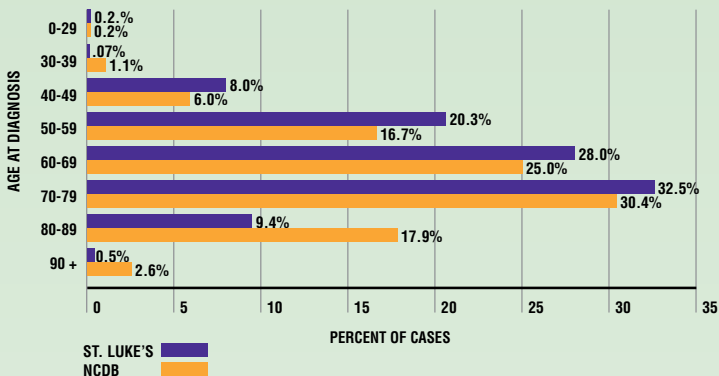
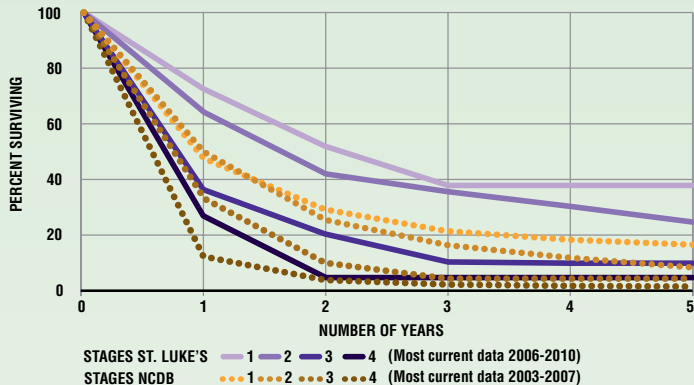


FIGURE 3
ST. LUKE'S VS. NCDB 5-YEAR SURVIVAL BY AJCC STAGE
PANCREATIC CANCER 2006-2010



In the 2004 report, 42% of the pancreatic cancer cases were diagnosed at Stage 4; however, 36% of the pancreatic cancer patients were diagnosed at Stage 4 in the 2010 report.

In the 2004 St. Luke's report, 2% of the patients presented at Stage 1, while in the 2010 statistics, 8% of the patients have presented at Stage 1. St. Luke's multidisciplinary approach, advanced diagnostics, and specialized treatments, particularly outstanding surgical outcomes, have made us a recognized center of excellence in pancreatic cancer

treatment. Increasing numbers of patients with pancreatic cancer are seeking out treatment at St. Luke's and there has been a shift toward an earlier stage of disease in our patient population.

ST. LUKE'S EXPERIENCE VERSUS NCDB STATISTICS

The experience with pancreatic cancer at St. Luke's in recent years has paralleled the National Cancer Data Base (NCDB) experience. However, current statistical reviews find St. Luke's demonstrating significant advances with a majority of cases when compared to National Cancer Data Base statistics. The Cancer Committee recommended that St. Luke's compare pancreatic cancer statistics with the National Cancer Data Base statistics accumulated from 1,392 hospitals across the nation. St. Luke's figures related to Stage at Diagnosis appear somewhat better than national statistics. At St. Luke's 23% of the pancreatic cancer patients were diagnosed at Stage 2 over the period 2000 to 2008. In a comparable time period, the National Cancer Data Base statistics showed only 16% of the pancreatic patients diagnosed at Stage 2. Nationally 47% of pancreatic cancer cases were diagnosed at Stage 4, while at St. Luke's 34% of pancreatic cancer was diagnosed at Stage 4. See Figure 1.

St. Luke's and NCDB statistics were quite similar concerning Age at Diagnosis. See Figure 2. Somewhat more patients were diagnosed in their 60s at St. Luke's than nationally—28% and 25%, respectively—while more patients were diagnosed in their 70s at St. Luke's than nationally—32.5% and 30%.

A comparison of five-year survival rates reveals that at Stages 2, 3, and 4, St. Luke's and NCDB figures are closely parallel. However, for Stage 1 patients, St. Luke's one-year survival rate is 70%, while NCDB patients had just a 47% rate at the one-year point—a significantly lower rate than St. Luke's. Overall, St. Luke's has had a somewhat higher survival rate throughout the five years. See Figure 3.

RECOMMENDATIONS AND FUTURE PLANS

At St. Luke's, we offer participation in our tissue-banking research protocol to all patients undergoing biopsy or surgical resection for pancreatic cancer. This provides our innovative basic science researchers with the material needed to make discoveries that will lead to better treatments. We are currently working closely with investigators in the Human Genome Research Center and the Center for Cell and Gene Therapy at Baylor College of Medicine. We hope that better understanding of the genetics of pancreatic cancer, combined with innovative cellular immunotherapy strategies, will soon translate into an exciting and effective treatment for patients with pancreatic cancer. This exciting work provides realistic hope for our patients with pancreatic cancer and their families that help is on the way.

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by Gilchrist L. Jackson, MD, FACS, and Luis H. Camacho, MD, MPH

“We are gratified to find that St. Luke’s melanoma 5-year survival percentages at Stages 3 and 4 are higher than the national percentages.”

INTRODUCTION

Last year brought hope and novel therapies to patients with melanoma. These advances result from a decade of intense molecular and clinical research; for the first time in history, the Food and Drug Administration approved agents against melanoma on the basis of a survival benefit in randomized clinical trials. Here we review the epidemiology, diagnosis, treatment, and prognosis of cutaneous melanoma. In addition to providing a literature update for this common malignancy, we analyzed our institution’s statistics during the period between 2000 and 2008, and compared the age, stage at presentation, and patient outcome with the National Cancer Data Base (NCDB).

While our statistics are slightly more favorable than the national average, we remain committed to search for other means to improve on them and to eradicate this disease through education, prevention, and cancer treatment.

EPIDEMIOLOGY

Melanoma is a malignant neoplasm that originates in the melanocytes, pigment cells that produce melanin and are embryologically derived from the neural crest. Most melanomas arise in the skin; however, they may also arise from mucosal surfaces (nasal, sino-nasal, vaginal, anal) or other sites of the anatomy to which neural crest cells migrate.

The world’s incidence of melanoma continues to rise. It is currently the 8th most common malignancy among males and females in developed countries and the 5th and 7th most common cancer affecting American males and females, respectively. Melanoma is also 10 times more prevalent among Caucasians than in African Americans.^{1,2}

Risk factors for melanoma include older age, male sex, family history of melanoma, high number of nevi, history of severe sunburn, and light hair color.³ Other risk factors historically identified include chronic immune suppression and such dermatological conditions as xeroderma pigmentosum. It is vital that high-risk individuals receive regular screening by a dermatologist, as well as prompt biopsy and removal of suspicious or pre-malignant lesions. Physicians should encourage patients to perform monthly self-exam, enlisting a family member or friend to view hard-to-see areas such as the scalp and back.

DIAGNOSIS

When diagnosed early, the cure rate for melanoma is high, and



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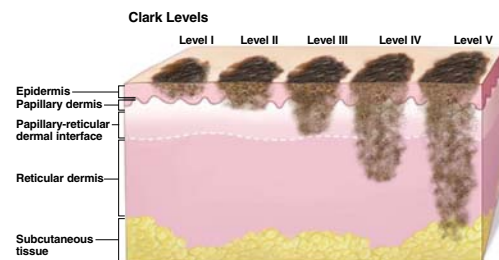
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surgery is limited. Melanomas usually present as a changing mole or spot on the skin. The classical presentation signs have been described as the ABCDE of melanoma for easier recollection: A: Asymmetry (One half is different from the other half.); B: Border Irregularity (Edges are notched, uneven, or blurred.); C: Color is uneven (Shades of brown, tan and black are present.); D: Diameter (Greater than 6 mm); and E: Evolving (Changes in the lesion over time are characteristic). This is a critical factor for nodular or amelanotic (nonpigmented) melanoma, which may not exhibit all the ABCD criteria.

The histological diagnosis is confirmed by a full thickness limited excisional biopsy. For larger tumors, an incisional biopsy is appropriate, with the biopsy scar oriented along the lines of skin tension to facilitate re-excision if the tumor is malignant. Potential melanomas should not be treated by scraping or burning.

The pathology report will determine the depth in millimeter invasion (Breslow) and also one of five Clark Levels initially described by Dr. W. Clark in 1969.⁴ They include the following: Level I: confined to the epidermis (top-most layer of skin) or “in situ” melanoma; Level II: invasion of the papillary (upper) dermis; Level III: filling of the papillary dermis, but no extension into the reticular (lower) dermis; Level IV: invasion of the reticular dermis; Level V: invasion of the deep, subcutaneous tissue (Figure 1). The presence or absence of ulceration, regression, satellites or micro metastases, lymphatic or vascular invasion, and mitotic rate are also noted and may carry prognostic significance.

FIGURE 1
CLARK CLASSIFICATION



Staging is through the TNM (Tumor, Nodes, Metastasis) system and is based on the thickness and depth of the tumor and whether the disease has metastasized to lymph nodes or other parts of the body. The choice of testing method includes serum lactic dehydrogenase enzyme levels (LDH), complete blood counts (CBC), hepatic function, chest x-ray, CT scan, and brain MRI. The use of further studies depends on the extent of the disease and the severity of symptoms at presentation.

FIGURE 2
ST. LUKE'S VS. NCDB STATISTICS
AGE AT DIAGNOSIS OF MELANOMA 2000-2008

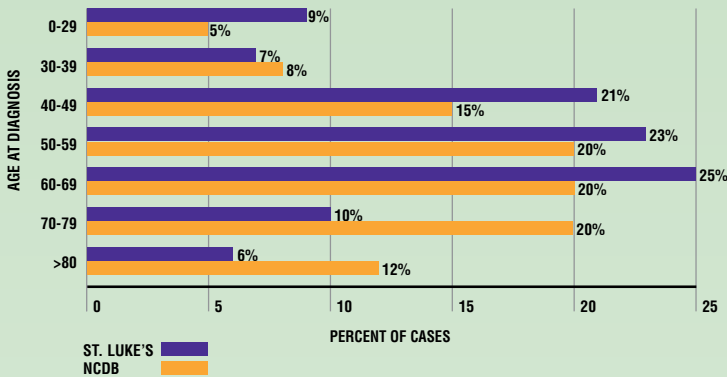


FIGURE 3
ST. LUKE'S VS. NCDB STATISTICS
STAGE AT DIAGNOSIS OF MELANOMA 2000-2008

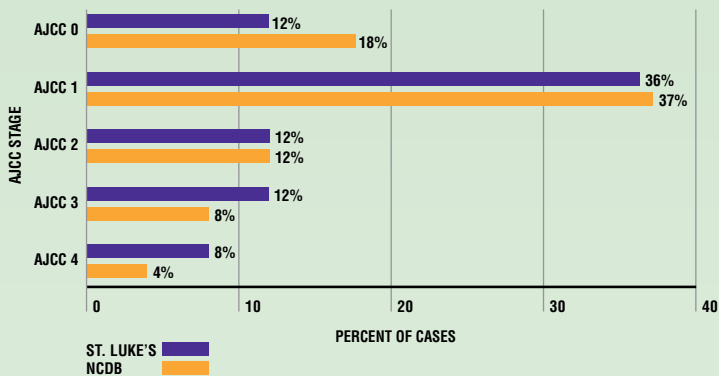
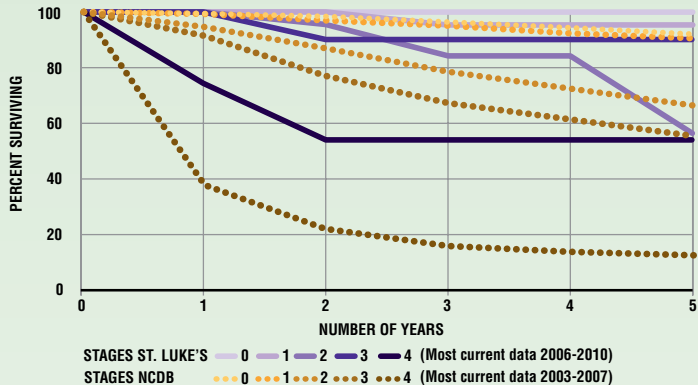


FIGURE 4
ST. LUKE'S VS. NCDB 5-YEAR SURVIVAL BY AJCC STAGE
MELANOMA



TREATMENT

Primary localized melanoma of the skin is treated by surgical excision, with primary closure unless it is large or located in a difficult area. For Stage 1 melanoma with a thickness of less than 1 mm, a 1 cm excision is adequate; however, for melanomas between 1 and 2 mm thick, up to 2 cm of surrounding skin must be removed. A sentinel lymph node biopsy identifies whether the disease has spread

and the nodal group to which the melanoma is most likely to spread. This is particularly helpful in treating melanoma of the trunk, which can spread to axilla, neck or groin nodes.⁵ Early diagnosis of microscopic spread to nodes facilitates prompt lymph node dissection and helps prevent morbidity in patients with apparent negative nodes. Long-term survival is higher in patients with microscopic nodal spread than in those with palpable disease. A wide excision is the standard treatment for Stage 2, along with sentinel lymph node biopsy. For tumors thicker than 4 mm and nodal metastases, adjuvant therapy with high-dose interferon alfa after surgery or vaccination strategies are recommendations to consider.⁶ Regionally spread melanoma (Stage 3) usually requires lymph node dissection, wide excision of the tumor, adjuvant immune therapy, and often external beam radiation therapy. Stage 4 disease has a very limited five-year survival, and the anti-tumor responses to either chemotherapy or immunotherapy are disappointing. Lungs, nodes, and liver are common sites of metastases; however, almost any organ can be involved by this neoplasm. The most commonly used drugs include dacarbazine (DTIC), cisplatin, vinblastine, temozolomide, taxanes, interferon alfa 2B, interleukin-2, and even tamoxifen. When combined, these drugs may induce greater response rates. However, combinations inflict greater toxicity without a positive historical survival impact in randomized clinical trials.

NOVEL THERAPIES

Ipilimumab (Yervoy[®]) received FDA approval this year on the basis of improved survival for patients with metastatic disease. This monoclonal antibody targets the Cytotoxic T Lymphocyte Antigen 4 (CTLA4) which is a negative regulator of T-cell activation. By binding and inactivating CTLA4, Yervoy[®] induces a non-specific immune response.

Vemurafenib (Zelboraf[®]) is an oral tyrosine kinase inhibitor of BRAF. This agent received FDA approval for the treatment of patients with unresectable or metastatic melanoma with BRAF V600E mutation as detected by a companion FDA-approved test. Therapy with vemurafenib resulted in improved survival and progression-free survival among patients with melanoma carrying the V600E mutation.⁷

PROGNOSIS

Survival rates closely correlate with the disease stage at presentation. For example, a patient with a Stage 1A has a 97% probability of survival at 5-years, and a 95% chance of surviving his/her disease at 10 years. A Stage 3A patient has 78% and 59% survival rates respectively. The 5-year survival for patients diagnosed with Stage 4 disease remains dismal and lower than 20% at 5 years. The incorporation of these newer agents to the therapeutic armamentarium may pave our way to better outcomes either when using them alone or in combination with other compounds.

ST. LUKE'S EPISCOPAL HOSPITAL EXPERIENCE

During the 8-year period between 2000 and 2008, some 198 patients with cutaneous melanoma were treated at St. Luke's Episcopal Hospital and recorded in our institutional Cancer Registry. The NCDB included 339,215 patients with melanoma in the 8-year period between 2000 and 2008.

Age at presentation. A comparison between the age at time of diagnosis of patients treated at St. Luke's and those in the NCDB's data base shows close parallels in the ages at which the highest proportion of patients overall are diagnosed—that is, approximately 60% of all patients are diagnosed between age 40 and 80. As depicted in Figure 2, approximately 21% of St. Luke's patients were diagnosed in their 40s, compared with 15% of patients in the national statistics database. Similarly, about 20% of patients were diagnosed in their 50s and 60s; again, our statistics differ by a minimal 3-5% per segment. The St. Luke's database shows a significantly lower percentage than does NCDB (10% vs. 20%) in the upper age segment (70s and 80s). Although these statistics are informative, allowing us to better know our patients and develop programs accordingly, one has to be cautious with their interpretation, for the numbers are rather small.

Stage at presentation. An even more close parallel can be seen with respect to the stage at which patients were diagnosed, as shown in Figure 3. Both St. Luke's and NCDB figures show that the greatest percentage of patients are Stage 1 at presentation—with St. Luke's at 36% and NCDB at 37.2%. Diagnosis at Stages 2 and 3 are also relatively similar, while the only exception is in the percentage of patients diagnosed at Stage 4: St. Luke's has 8% while in the NCDB, only 3.55% present at Stage 4. St. Luke's had just 15 (of its total 198) patients diagnosed at that stage, and that may account for that result.

Survival. Five-year survival rates for St. Luke's patients and those included in NCDB figures are shown in Figure 4. Both groups show very high survival rates in patients diagnosed at Stages 0 and 2. A slight difference is shown at Stage 2, while greater difference is reflected in the percentages at Stages 3 and 4. The St. Luke's survival percentages at late stages are higher than the national percentages; however, we recognize that the limited number of patients in our patient population precludes us from drawing significant conclusions.

CONCLUSION

Melanoma remains a serious public problem. As with most malignancies, prevention through healthy sun exposure habits and early diagnosis and treatment result in cure rates close to 100%. In contrast, when disease is advanced, patients with this disease experience poor outcomes and their survival is rather limited.

New molecular findings have led to the development of novel agents against melanoma and the results of these efforts are already available for patients outside clinical trials. Over the past year, three agents were approved for the treatment of melanoma. These drugs and future combinations with existing agents or other novel compounds are promising for patients with advanced disease. Participation in ongoing clinical trials will continue to further our knowledge and assure best clinical care.

It is also vital that patients who have successfully completed their treatment continue with regular dermatological screenings to look for new primary lesions or early signs of recurrence, either at the primary site or in other organs. It is encouraging to note that the risk of recurrence decreases over time—and research is advancing daily.

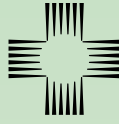
Overall, our results are encouraging and provide us with the enthusiasm to continue searching for better patient therapies while offering standard approaches to those fighting melanoma at present.

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