



## **CancerCare Program**

**A Community Hospital  
Comprehensive Cancer Program**

## **2008 Annual Report** 2007 Statistics

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# Los Robles Hospital & Medical Center

## CancerCare Program

**2008 Annual Report**  
2007 statistics

### Table of Contents

Introduction .....	3
The CancerCare Program .....	5
Diagnostic and Treatment Services .....	6
Other Available Services .....	10
Community Outreach and Education .....	12
Oncology Conferences .....	14
Cancer Registry Report .....	16
Gamma Knife .....	22
Cancer Committee Membership.....	27
Acknowledgements .....	28
Glossary of Terms and Abbreviations.....	29
References .....	30

## Introduction

Los Robles Hospital and Medical Center and the Cancer Committee are proud to present for your review the 2008 CancerCare Program Annual Report. This report reflects activities of the program for 2007.

Los Robles CancerCare Program first received approval from the American College of Surgeons, Commission on Cancer in 1979. The Program has continued to receive the maximum approval awarded for cancer programs as a Community Comprehensive Cancer Program through the years through significant efforts of many individuals and hospital departments. Our goal is to provide our community with state of the art, compassionate and coordinated cancer care.

Our Cancer Committee continues to facilitate the future direction of oncology care in our community. This committee serves as the managing body of the CancerCare Program providing guidance for planning, implementing and evaluating oncology related activities and serves as an advisory body to the medical staff and hospital administration.

Our CancerCare extends beyond the walls of the hospital. Prevention, detection, and screening programs have been an integral part of the CancerCare Program's success. We continue to offer multiple educational seminars annually, as well as, support groups and various other supportive programs. We hope to develop an expanded outpatient liaison program to provide support and guidance to our community, from the time of initial suspicion of cancer, through completion of care, and beyond.

Physician and staff education is also an integral part of our program. Multidisciplinary oncology conferences are held weekly, and numerous other educational activities are offered by the hospital for continuing medical education.

The Cancer Registry continues to collect quality data, track data trends, and follow reporting standards. From its reference date in 1986 through December 2007, over 12,332 cases have been accessioned into the registry database. The registry participates in the National Cancer Data Base (NCDB) Annual Call for Data. The registry also supplies data for studies requested by staff physicians. The statistical information presented in this annual report is compiled from registry data.

After years of hard work the Cancer Committee is pleased to announce our cancer research program is finally started and we have been accepted as a member of the Sarah Canon Cancer Research Institute. Our membership allows staff medical oncologists to enroll patients on multiple clinical trials. Efforts are underway to become an affiliated research center of a National Cancer Institute recognized Cancer Center. We hope to provide our patients the opportunity to receive innovative therapies in their own community.

Neuroscience Gamma Knife Center for noninvasive treatment of brain tumors and other non cancer neurological disorders has been a great success. A department of Los Robles

Hospital and Medical Center, the Gamma Knife Center has a multidisciplinary team of board certified physicians led by recognized experts in the field of neurosurgical stereotactic radiosurgery and with a highly qualified team of neurosurgeons, radiation oncologists, physicists, and nurses.

We are also proud to announce enhancements to our radiology team. In addition to new diagnostic equipment we have added the PACS system. PACS gives clinicians the ability to remotely review imaging with their patients. Our interventional radiology team has been expanded improving our ability to provide minimally invasive diagnostic and therapeutic options such as cryoablation, chemoembolization, and radiofrequency ablation.

Continued renovations are underway to provide our patients a comfortable environment for their treatment. We've turned our semi private patient rooms into private rooms, created a patient education resource library, and provided a family consultation room. We have a new and expanded infusion room which has made a tremendous impact on our patient's comfort.

Los Robles Hospital & Medical Center's continued commitment to curing and caring continues to be demonstrated through an array of growing programs and enhanced services. We trust that this annual report reflects the effort of the many professionals who have contributed their expertise and energy to the improvement of cancer care at our hospital and in our community.

Anita Kaul, M.D.  
*Chairman, Cancer Committee*

# The CancerCare Program

## A Community Hospital Comprehensive Cancer Program

Los Robles Hospital & Medical Center is a 265-bed acute care facility dedicated to serving the healthcare needs of the residents of Ventura County, the Greater Conejo Valley and its surrounding communities. The hospital is fully accredited by the Joint Commission of Accreditation of Healthcare Organizations, the American College of Surgeons' (ACoS) Commission on Cancer, ACR, CAP, and is a member of numerous local, state and national health professional organizations.

Built in 1968, Los Robles Hospital & Medical Center has consistently earned top honors throughout the state and county. As a full service comprehensive CancerCare Program, we are pleased to bring our community a complete array of services for the screening, early detection, diagnosis, treatment and management of cancer. Information and programs specific to cancer survivorship issues are also available. All these services are provided through a network of cancer specialists conveniently located, along with the CancerCare Program, on the campus of Los Robles Hospital & Medical Center.

Accredited by the American College of Surgeons as a Community Hospital Comprehensive Cancer Program, Los Robles Hospital & Medical Center has a long history of treating cancer patients. We are committed to providing the very best in prevention, screening, education, care and support for individuals with cancer and their families. The CancerCare Program at Los Robles provides a complete range of services from diagnoses through recovery, on site or by referral.

Our in-house Hospice program has proved to be an excellent resource and means of care for terminally ill patients, including those with cancer. Our NeuroScience Gamma Knife Center was opened in 2006 and is located on the hospital campus. The Leksell Gamma Knife is the latest generation in non-invasive treatment of benign and malignant tumors, vascular malformations, and other functional disorders located in the critical areas of the brain that were previously considered inoperable or inaccessible.

The medical staff members at Los Robles Hospital & Medical Center are board certified in major medical specialties including those in oncology. We hold weekly oncology conferences and at least 2% of our cancer patients are placed in clinical trials each year. We recently became a member of the Sarah Cannon Cancer Research Institute, which will allow all medical oncologists on staff to enroll patients in clinical trials in their own community.

For more information about Los Robles Hospital & Medical Center, log on to [www.losrobleshospital.com](http://www.losrobleshospital.com).

## **Diagnostic and Treatment Services**

The CancerCare Program at Los Robles Hospital & Medical Center provides a complete range of services from diagnostic to recovery. Following is a list of the services offered.

### **Radiology**

- Diagnostic Imaging/Nuclear Medicine – including leading edge equipment and techniques. Fully accredited mammography services, including high-resolution breast ultrasound, core biopsy of breast lesions, mammotome, and lymphoscintigraphy for sentinel lymph node identification in breast cancer and melanoma is also available. Other capabilities include the monoclonal antibody agent targeting, high-resolution tomographic images (SPECT), and complete therapy services, including treatment of pain in metastatic disease.
- Ultrasound services – include state-of-the-art technology with color flow Doppler capabilities and a wide range of transducers including transvaginal and transrectal probes, and ultrasound guided prostate biopsy techniques.
- High-field-strength Magnetic Resonance Imaging (MRI) offers a full spectrum of specialized imaging coils and the most up-to-date software. A pelvic phased array coil allows detailed MRI evaluation of prostate cancer. Specialized Breast MRI is available.
- The 24-hour CT department offers rapid, high-resolution imaging for both inpatients and outpatients. Diagnostic biopsies, therapeutic interventions, coronary artery calcium scoring, CT angiography and lightspeed CT scanning are available.
- Positron Emission Tomography (PET) CT scanning is also available on campus by referral.

### **Interventional Radiology**

Complete Interventional Radiology and Angiography services are provided with the latest techniques, including digital subtraction angiography (DSA)

1. Trans-arterial Chemoembolization (TACE) - advanced technique where an interventional radiologist using tiny catheters and wires applies high dose chemotherapy to the blood vessels that supply the tumor. High doses of the medication can be achieved at the site of cancer while keeping total dose to the patient low with lower side effects and lower systemic toxicity.
2. Radiofrequency ablation (RFA) - using CAT scan or ultrasound guidance small probes are placed into the epicenter of the tumor. Once the probe is in position, it is heated to high temperatures in order to destroy the cancer cells. The procedure is very well tolerated by the patients and the patient usually goes home on the same day of the procedure. This technique can be used to treat tumors in various organs such as liver, kidney, lung or bone.
3. Cryoablation - this technique is very similar to radiofrequency ablation however the tumor is treated by cooling process rather than heat.
4. Biopsy - advance image guidance is used to obtain tissue for diagnosis.

### **Pathology Department**

Staffed by 7 board-certified pathologists, expertise is available in surgical pathology, cytology and fine needle aspiration, clinical pathology, blood banking and hematopathology. Morphologic diagnoses are facilitated by advanced technology, including DNA flow cytometry, immunohistochemistry, hormone receptor analysis and cell cycle analysis.

The clinical laboratory contains a wide range of up-to-date, rapid, automated equipment. The clinical laboratory continuously investigates and implements new tests and procedures to provide the best possible patient care. Point-of-care testing instruments are utilized to rapidly provide accurate laboratory test results at the patient's bedside.

### **Endoscopy**

Outpatient and inpatient endoscopic diagnosis, surveillance and treatment of respiratory, gastrointestinal and genitourinary malignancies are available at Los Robles. The Special Procedures Unit provides services for gastrointestinal patients and includes a video-endoscopy unit. These services include upper endoscopies and colonoscopies. Comprehensive care includes diagnosis of disorders of the pancreas, bile duct, liver and gallbladder. Available treatment includes removal of biliary stones and biliary stenting.

### **Radiation Oncology**

Two radiation oncology facilities provide therapy through the CancerCare Program. Radiation oncology facilities are available on campus of Los Robles and in Westlake Village. Our Radiation Oncologists are highly trained and part of one of California's largest Radiation Oncology Medical Groups.

In the past several years, innovations in computer technology and highly sophisticated electronics have been applied to enhance the ability to tightly target radiation therapy. As a result, radiation oncology treatments are associated with fewer side effects and markedly reduced tissue damage to areas surrounding the offending tumor. Coastal Radiation Oncology Medical Group and its affiliates offer at Los Robles a comprehensive range of technological resources including:

- IMRT Technology (Intensity Modulated Radiation Therapy) and IGRT (Image Guided Radiation Therapy) implemented in 8 centers, including on the campus of Los Robles Hospital and Medical Center and our Westlake Facility.
- 14 linear accelerators with energies from 4 to 18 million volts, with 10 that feature electron capabilities, including 3 machines as part of the CancerCare Program.
- Inpatient radioactive implant brachytherapy capabilities .
- An outpatient high-dose rate Nucletron brachytherapy unit, designed for radiation implants located on the Los Robles campus.
- Orthovoltage superficial radiation equipment for the treatment of skin cancer.
- Multiple dedicated treatment-planning computers for precision dosimetry, which provides more accurate targeting of tumors while avoiding normal tissue excess.
- In-house custom block fabrication for additional tailoring of the radiation field to prevent or minimize side effects as well as MLC (multileaf collimation) for automated shielding of healthy tissues.
- Large in-house physics department, which monitors daily machine calibrations.

- Machines calibrated and independently confirmed to meet rigid standards set by the National Cancer Institute for patients on clinical trials.
- Gamma Knife Stereotactic Radiosurgery using the Leksell Gamma Knife for non-invasive treatment of benign and malignant brain tumors, vascular malformations, and other functional disorders located in the critical areas of the brain that have been previously considered inoperable or inaccessible.

### **Medical Oncology**

All Medical Oncologists affiliated with Los Robles Cancer Care Program are Board Certified and highly trained in all disciplines of cancer care. The primary focus of the Medical Oncologist is comprehensive patient care, helping and guiding patients and families throughout management of cancer. Medical Oncologist along with other specialists at Los Robles work as a unit to provide coordinated combined modality treatment as required.

For patient's convenience, our Medical Oncologists offer cancer treatments such as chemotherapy in a specially designed area within their offices as well as the hospital infusion center as patient care requires. Each physician maintains excellent relationships with several large tertiary university, hospital and cancer centers throughout Southern California and the United States. In this way, they can ensure their patients have access to the country's latest cancer treatments, right here in the Conejo Valley. Through their combined efforts with Los Robles many of these have become available locally.

### **Surgical Oncology**

A wide-range of board-certified surgical specialists provides both general and oncological surgery on an outpatient and inpatient basis. They are an integral part of the CancerCare Program team and work closely with the medical and radiation oncologists to assure promising, advanced treatment.

### **Gynecologic Oncology**

The diagnosis, evaluation and treatments of cancers of the female reproductive system is the primary focus of the Board Certified Gynecological Oncologists, including cervical, uterine, and ovarian cancers.

### **Plastic and Reconstructive Surgery**

Whether to address aesthetic or clinical concerns, the Board Certified Plastic and Reconstructive Surgeons on staff provide the professional expertise to enhance and heighten the patient's physical appearance and sense of well being.

### **Urologic Oncology**

Our Board Certified Urologists are specialists in the diagnosis, evaluation, and treatment of cancers of the genitourinary system, including cancers of the prostate, kidney, bladder and testes.

### **Neurosurgical Oncology**

Our NeuroScience Gamma Knife Center for noninvasive treatment of brain tumors is the only Gamma Knife Center located between western Los Angeles County and San Francisco. The Gamma Knife Center has a multidisciplinary team of Board Certified Neurosurgeons, Board

Certified Radiation Oncologists, physicists, an anesthesiologist (for children and patients with special needs) and specially trained registered nurses. We have several highly qualified Neuro Surgeons on staff to intervene surgically when needed.

### **Inpatient Oncology Unit**

The oncology unit provides 24-hour continuous acute care for adult medical/surgical oncology patients. The unit utilizes an integrated approach to cancer care that incorporates all treatment modalities and supportive services. Quality care is provided by Registered Nurses with advanced knowledge and training in oncology/hematology nursing practice, which includes pain management, administration of chemotherapy and blood products, and monitoring oncological emergencies. In addition, an outpatient infusion area provides 12 hours a day, 7 days per week services. Certified chemotherapy nurses provided quality care.

### **Inpatient Hospice Care Program**

Los Robles is among few hospitals in the nation with this specialized service. Our inpatient Hospice Care Program focuses on providing our terminally ill patients and their families with the care and comfort measures appropriate to them. We strive to help the patient maintain the highest possible quality of life by addressing their physical, emotional, spiritual and social needs through a multidisciplinary professional healthcare team.

## **Other Available Services**

There are extensive cancer resource services available at Los Robles Hospital & Medical Center. They include a wide range of literature and research material, videos and other information from the American Cancer Society. In addition, referral services are available to patients, families and community members.

### **Education and Support**

Patient/family education is a collaborative effort that provides both understanding and support. Individualized one-on-one teaching is provided by a Registered Nurse covering topics and issues ranging from preoperative preparation to postoperative care. Other areas of education include, but are not limited to, new cancer diagnosis, chemotherapy, central-line management, pain management, and ostomy care.

### **Nutrition Services**

A Registered Dietitian is an integral part of the oncology team who contributes to the decision-making and management of a patient's disease and complications with medical nutritional therapy. The dietitian works closely with patients and family members to formulate an individualized, comprehensive nutritional care plan. Community lectures are offered throughout the year based on the most current scientific research in regards to nutrition therapy.

### **Case Management**

Discharge planning is organized through the Case Management Department. Assessments are completed on all patients. Patient needs are evaluated and discussed with the physician and members of the treatment team. The patient and family are included in the planning process. Transfers are coordinated when it is necessary for the patient to be discharged to another level of care. Referrals are made for home health care (nursing and therapy services), medical equipment and other community resources at the time of discharge.

### **Medical Staff Library**

The Medical Staff Library has multiple texts and journals pertaining to oncology-related subjects. Additionally, several computers are available to the medical staff for use with the National Library of Medicine's Medline Cancerlit (a comprehensive bibliographic database), 24-hour-a-day internet access, and various software programs.

### **Pharmacy**

The pharmacy staff is certified in the handling of chemotherapy medications, have been involved with the Oncology Unit since it opened in 1981. Coordinating chemotherapy regimens and monitoring dosages are vital to safe and effective drug therapy. The pharmacy staff works jointly with the physician and nursing staff to provide optimal pain management.

### **Rehabilitation**

Rehabilitation Services provide physical, occupational and speech therapies. A thorough evaluation examines strength, endurance, mobility, cognition function, activity level and need for assistive devices. A treatment program is designed to maximize the patient's physical potential and to assist them in returning to prior life styles.

### **Lymphedema Program**

The Lymphedema Program at the Outpatient Rehabilitation Clinic is a comprehensive decongestive therapy program for lymphedema. Patients who are symptomatic or who are at risk of incurring lymphedema due to surgery and/or radiation are referred to the clinic for evaluation and possible therapy. It consists of education, manual lymph node drainage, compression through multi-layered compression bandages and compression garments, and therapeutic exercise. Patients and their family members are educated in self-care.

### **Social Services**

Oncology Social Services offer psychosocial patient assessments, counseling and support to individual patients and their families. Information is given on community resources and services available. Individual support and education is given to oncology nursing staff, volunteers, and other hospital employees as needed. The CancerCare Program physicians, licensed clinical social workers, and oncology nursing staff also work closely with the American Cancer Society, Wellness Community and Hospice organizations. Support groups provided through social services and the CancerCare Program include:

- “Lunch Bunch” Cancer Support Group
- Leukemia/Lymphoma Support Group
- “Look Good Feel Better” coordinated with ACS
- “Reach to Recovery” by referral to ACS
- Strength for Caring Caregiver Program
- “I Can Cope” coordinated with ACS

### **Volunteer Services**

Volunteer Services provide a variety of support services to cancer patients, their families, and Los Robles Hospital & Medical Center staff. Volunteer Chaplain Assistants give special attention to oncology patients and work with local clergy as requested.

## Community Outreach and Education 2007

January 16, 2007 **“Freedom from Smoking”** eight session Smoking Cessation Class, Margaret Maslakowski, RN BSN OCN, Cancer Care Coordinator.

February 1, 2007 **“The HPV Vaccine and It’s Prevention of Cervical Cancer”** with speaker Karie McMurray, M.D., FACOG and Patricia Glick, RN, CRNP.

March 1, 2007 **“Colon Cancer Is It Preventable? Is It Curable?”** with speakers David Chi, M.D., Surgical Oncologist and Anita Kaul M.D., Medical Oncologist.

March 12, 2007 in conjunction with the ACS, **“Look Good Feel Better”** program with the American Cancer Society/Cosmetic, Toiletry and Fragrance Association and Cosmetology Association for women experiencing appearance-related side effects from chemotherapy and radiation.

March 21, 2007 **“Radical Prostatectomy”** with speaker James Pero M.D. Urologist for the Prostate Cancer Support Group.

April 10, 2007, **Wellness Day** for the City of Thousand Oaks employees: cancer prevention and early detection booth provided by Los Robles Cancer Program.

April 25, 2007 **“Fitness and Safety Fair”** for all LRHMC employees: Cancer prevention and early detection booth.

May 8, 2007 **“Freedom from Smoking”** eight session Smoking Cessation Class, Margaret Maslakowski, RN BSN OCN, Cancer Care Coordinator.

May 23, 2007 **“Preventing and Treating Skin Cancer”** with guest speaker Dr. Kaufman, Dermatologist. Free skin cancer screening by dermatologists: Dr. Guanche, Dr. Kamell, Dr. Romero, and Dr. Zimmerman.

June 4, 2007 **“Nutrition for the Cancer Patient: Before, During, and After Treatment”** with guest speaker, Julie Hornbeck, MS, RD.

June 9, 2007 **“Health Fair 2007”**community health fair; provided cancer-related information and educational materials on prevention, early detection, and specific cancer diagnosis/treatments.

September 15, 2007 Prostate **Cancer Screening**: Free screening included PSA and DRE by an urologist. Physicians that donated their time were: Dr. Gray, Dr. Pero, Dr. Muni Reddy, and Dr. Shashi Reddy.

September 17, 2007 **“Look Good Feel Better”** program with the American Cancer Society/Cosmetic, Toiletry and Fragrance Association and Cosmetology Association for women experiencing appearance-related side effects from chemotherapy and radiation.

October 27, 2007 8:30am – 12:30pm **Breast Cancer Seminar** held at the Westlake Hyatt; Speakers/topics included: Dr. Paul Miller, Radiation Oncologist-introduction and overview of breast cancer; Dr. Barry Klein, Radiologist- role of MRI in diagnosis of breast cancer; Dr McMurray, OB/GYN- HRT, and Dr. Kashyap, Medical Oncologist- genetics and Dr. David Chi, Surgical Oncologist- treatment options.

November 5, 2007 **“Look Good Feel Better”** program with the American Cancer Society/Cosmetic, Toiletry and Fragrance Association and Cosmetology Association for women experiencing appearance-related side effects from chemotherapy and radiation.

November 15, 2007 11:00a.m. to 1:30p.m. (Los Robles Hospital main lobby) and November 16, 2007 11:00 a.m. to 1:30p.m. (Los Robles cafeteria): **The Great American Smoke Out**. Provided information to hospital staff and community on: “Smoking Fact Sheet”, “Secondhand Smoke”, “Smoking and Pregnancy”, “What’s in Cigarette Smoke”, “New Fad: Is it Worth Dying For?” (covering bidis, kreteks, hookahs, smokeless tobacco and cigars), “New Traffic Law” (smoking in cars with minors), “Within 20 minutes of quitting!”, “I Quit”, NRT and Chantex information, “Freedom from Smoking 2008” class schedule and local resources.

## Oncology Conference

Oncology Conferences are an opportunity for physicians to review and discuss treatment options available for specific malignant or benign processes. The weekly conferences are multidisciplinary and include physicians from medical oncology, radiation oncology, surgery, radiology and pathology. History, physical findings, diagnostic imaging, and pathology are reviewed for each case, followed by a discussion of diagnostic and therapeutic approaches. Conferences focus not only on problem cases but also on pretreatment evaluation, staging, treatment strategy, and rehabilitation in a broad spectrum of cases.

Didactic lectures are important but should not exceed 25% of the conference frequency. The cases presented at the Oncology Conference are to be at least 10% of the annual analytic caseload accessioned into the cancer registry. At least 75% of the cases presented are required to be prospective. Prospective cases are defined as those that are presented at a time when management of the patient's disease process could be influenced by the discussion. This includes newly diagnosed cases not yet treated, cases in which treatment has been initiated, but discussion of additional treatment is requested, as well as previously diagnosed cases, initial treatment completed, but discussion of adjuvant treatment for recurrence or disease progression is needed. Also, special interest cases may be brought back for follow up discussion after the initial presentation. The following was observed for 2007:

- 48 weekly tumor conferences were held during the year
- 77 prospective cases were presented (97%)
- 2 non-prospective/follow up/special interest cases were discussed
- 2 didactic conferences were held during the scheduled weekly conference
  1. "Clinical Trials for Glioblastoma Mutliforme", March 27, 2007, Albert Lai, M.D., Assistant Clinical Professor, UCLA Neuroscience Research
  2. "Commission on Cancer's Cancer Program Practice Profile Report (CP3R): Concordance with Standards of Care –Stage III Colon Cancers," December 4, 2007.

The following table shows the breakdown of the cases presented at Oncology Conference by site discussed.

### 2007 Oncology Conference Case Presentation Site Table

Site	# Cases	Site	# Cases
<u>Head &amp; Neck:</u>		<u>Breast:</u>	15
Pharynx	5	<u>Female Genital System:</u>	2
Larynx	3	<u>Male Genital System:</u>	
Other Oral/Pharynx	1	Prostate	7
<u>Digestive System:</u>		Testis	1
Esophagus	1	<u>Urinary System:</u>	
Stomach	1	Bladder	3
Colorectal	4	Kidney/other urinary	4
Liver	2	<u>Brain/Nervous System:</u>	6
Pancreas	1		
Other Digestive	1	<u>Hematologyatopoietic and Lymphatic System:</u>	
<u>Respiratory System:</u>		Hodgkin Lymphoma	1
Lung/Bronchus	10	Non-Hodgkin Lymphoma	3
<u>Other Respiratory</u>	2	Leukemia	1
<u>Skin:</u>		<u>Other/Unknown:</u>	2
Melanoma:	2		
Other Melanoma	1	<b>Total number of cases presented:</b>	79

## Cancer Registry Report

The Cancer Registry at Los Robles Hospital is responsible for reporting incidences of cancer to the California Cancer Registry (CCR) as required by California Health and Safety Code sections 103875, 103885, and 100330 and is a required component for approval by the Commission on Cancer of the American College of Surgeons (ACoS.) Los Robles Cancer Registry maintains the hospital cancer database with more than 13,000 cases accessioned 1986 through the present. The database includes information on demographics and medical history, anatomical site and histology of the disease, extent of disease, as well as, the diagnostic evaluation and treatment. The objective of the cancer registry is to provide the medical staff and leading cancer researchers with high quality data. This enables our medical staff to evaluate the results of our patient care and compare our outcomes with state and national averages. Our mandated state reporting and annual participation in the National Cancer Data Base (NCDB) Call for Data allows leading researchers to analyze and compare patterns of care, and prepare epidemiologic studies to determine the causes of cancer. These data are the foundation for cancer control programs and research and are the primary source for reports published by the American Cancer Society (ACS) and the National Cancer Institute (NCI.)

In addition to data collection and cancer reporting, the Los Robles Cancer Registry is an integral part of the accredited cancer program, and is responsible for coordination and maintenance of the elements required for approval by the ACoS. To meet the requirements of an approved cancer program, the managing physician must stage 90% of eligible analytic cases. This stage is based on the American Joint Committee on Cancer (AJCC) Cancer Staging Manual, currently in its 6<sup>th</sup> edition. The Cancer Registry monitors physician staging and records the stage when cases are accessioned into the registry. The Cancer Registry also participates in Cancer Committee activities as well as manages the Oncology Conferences.

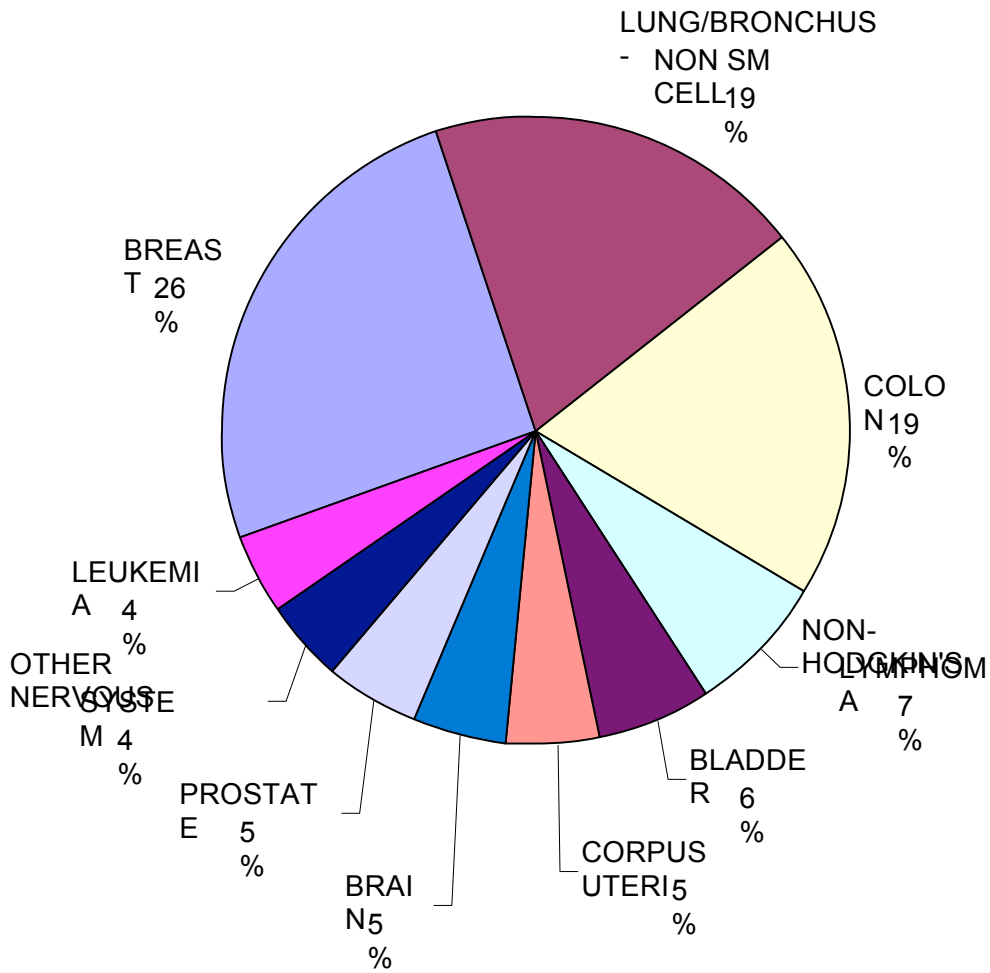
Lifetime follow-up is important to the care of cancer patients. The Cancer Registry collects and maintains lifetime data on patients from their first diagnosis and treatment through death to determine their cancer status, quality of life, recurrence and subsequent treatment, and length of survival. There are greater than 4600 living patients in the database that are followed. These records are a key element of all cancer programs approved by ACoS Commission on Cancer. The success of the Cancer Registry relies heavily upon the physicians on staff at Los Robles Hospital & Medical Center. Their interest and support is greatly appreciated. Without their active participation, completion of treatment data and follow-up information is not possible.

This report provides a summary of the CancerCare Program at Los Robles Hospital & Medical Center activity for 2007. There were a total of 571 cases added to the database for 2007 with 466 of them being analytical (newly diagnosed).

# Los Robles Hospital and Medical Center

## Frequency of Cancer Top 10 Sites

### 2007 Distribution of Primary Diagnosis

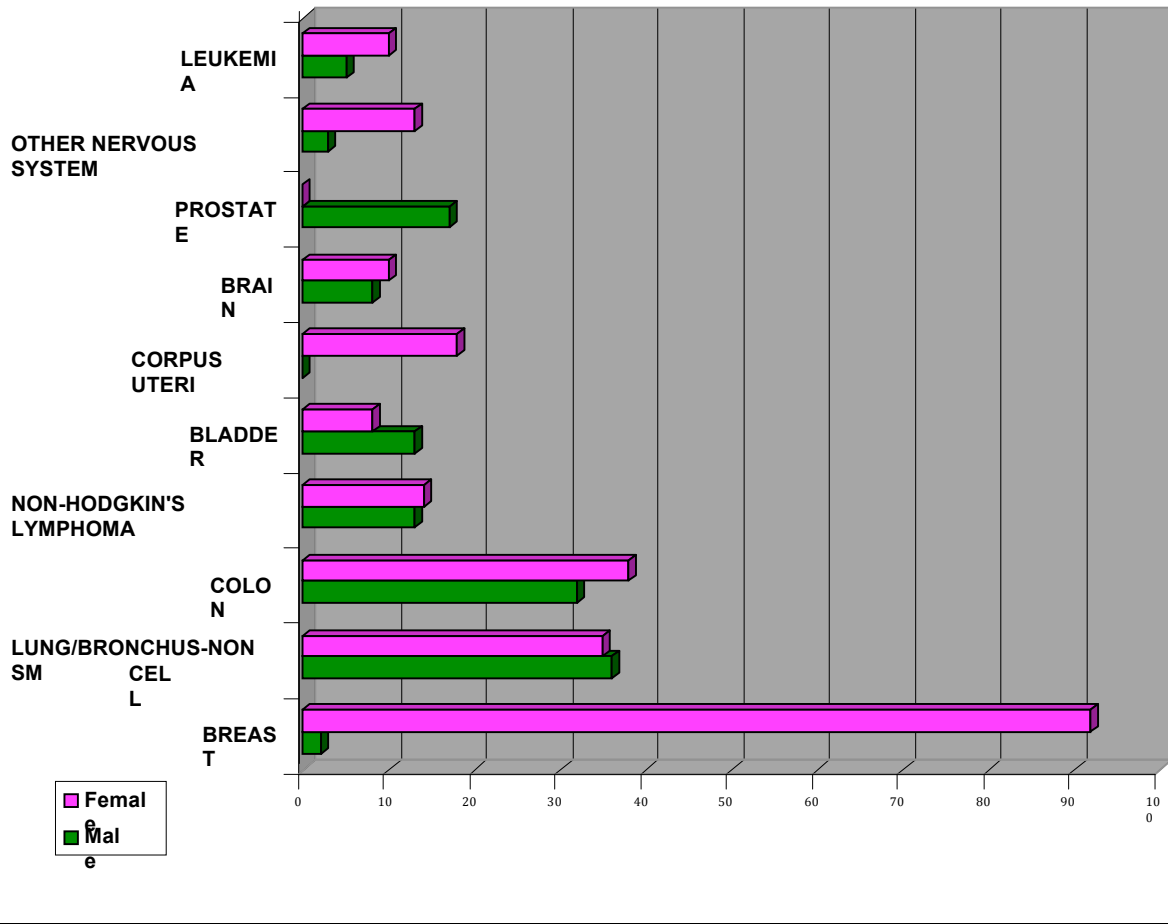


# Los Robles Hospital and Medical Center

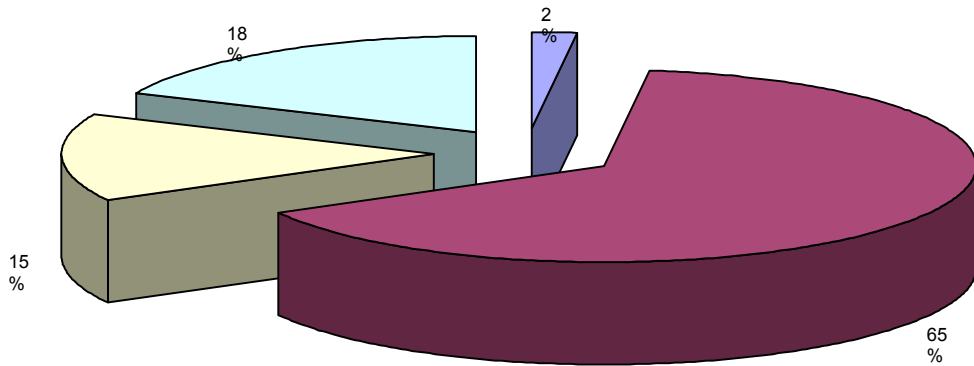
## 2007 Site Table

Site Group	Total Cases	Class		Sex		Stage						
		Analytic*	NonAnalytic**	M	F	Stage 0	Stage I	Stage II	Stage III	Stage IV	N/A	Unknown
ALL SITES	571	466	105	229	342	22	108	79	63	79	78	37
BREAST	94	78	16	2	92	8	37	24	4	3	0	2
LUNG/BRONCHUS-NON SM CEL	71	53	18	36	35	0	10	0	9	27	2	5
COLON	70	66	4	32	38	2	18	23	13	6	2	2
NON-HODGKIN'S LYMPHOMA	27	25	2	13	14	0	5	5	5	6	0	4
BLADDER	21	15	6	13	8	8	2	1	1	1	0	2
CORPUS UTERI	18	16	2	0	18	0	9	0	3	2	0	2
BRAIN	18	13	5	8	10	0	0	0	0	0	13	0
PROSTATE	17	16	1	17	0	0	1	6	5	4	0	0
OTHER NERVOUS SYSTEM	16	14	2	3	13	0	0	0	0	0	14	0
LEUKEMIA	15	12	3	5	10	0	0	0	0	0	12	0
RECTUM & RECTOSIGMOID	14	14	0	8	6	1	2	3	2	4	0	2
PANCREAS	14	11	3	8	6	0	0	3	1	5	0	2
UNKNOWN OR ILL-DEFINED	14	12	2	2	12	0	0	0	0	0	12	0
ESOPHAGUS	13	10	3	13	0	0	2	0	0	4	0	4
OVARY	13	11	2	0	13	0	0	2	5	2	0	2
LUNG/BRONCHUS-SMALL CELL	12	7	5	8	4	0	0	0	2	4	0	1
OTHER HEMATOPOIETIC	11	8	3	7	4	0	0	0	0	0	8	0
MELANOMA OF SKIN	8	4	4	5	3	0	2	0	0	2	0	0
KIDNEY AND RENAL PELVIS	8	6	2	6	2	0	2	1	1	1	0	1
THYROID	8	8	0	1	7	0	5	0	3	0	0	0
STOMACH	7	6	1	3	4	0	2	0	0	1	0	3
LIVER	7	6	1	3	4	0	1	2	1	0	0	2
MYELOMA	7	5	2	5	2	0	0	0	0	0	5	0
CERVIX UTERI	6	6	0	0	6	0	2	1	2	0	0	1
OTHER ENDOCRINE	6	3	3	4	2	0	0	0	0	0	3	0
HODGKIN'S DISEASE	5	4	1	3	2	0	1	1	1	1	0	0
SMALL INTESTINE	4	4	0	4	0	0	0	0	0	1	2	1
PERITONEUM,OMENTUM,MESEN	4	4	0	0	4	0	0	0	0	0	4	0
SOFT TISSUE	4	2	2	2	2	0	1	0	0	1	0	0
OTHER FEMALE GENITAL	4	4	0	0	4	0	0	1	3	0	0	0
URETER	4	3	1	2	2	1	0	1	0	1	0	0
TONGUE	3	3	0	1	2	0	2	1	0	0	0	0
SALIVARY GLANDS, MAJOR	3	1	2	2	1	0	0	0	1	0	0	0
BILE DUCTS	3	2	1	0	3	0	1	1	0	0	0	0
LARYNX	3	1	2	3	0	0	1	0	0	0	0	0
ANUS,ANAL CANAL,ANORECTUM	2	1	1	1	1	0	0	1	0	0	0	0
NASAL CAVITY,SINUS,EAR	2	1	1	1	1	0	0	0	0	0	1	0
PLEURA	2	2	0	1	1	0	0	1	0	0	0	1
VULVA	2	2	0	0	2	1	0	0	0	1	0	0
TESTIS	2	1	1	2	0	0	1	0	0	0	0	0
GUM	1	1	0	1	0	0	0	0	0	1	0	0
FLOOR OF MOUTH	1	1	0	0	1	0	0	1	0	0	0	0
TONSIL	1	1	0	1	0	0	0	0	1	0	0	0
NASOPHARYNX	1	0	1	1	0	0	0	0	0	0	0	0
GALLBLADDER	1	0	1	0	1	0	0	0	0	0	0	0
BONE	1	1	0	1	0	0	1	0	0	0	0	0
OTHER SKIN CA	1	1	0	1	0	0	0	0	0	1	0	0
UTERUS NOS	1	0	1	0	1	0	0	0	0	0	0	0
VAGINA	1	1	0	0	1	1	0	0	0	0	0	0

# Los Robles Hospital and Medical Center 2007 Frequency of Cancer Site Group by Sex

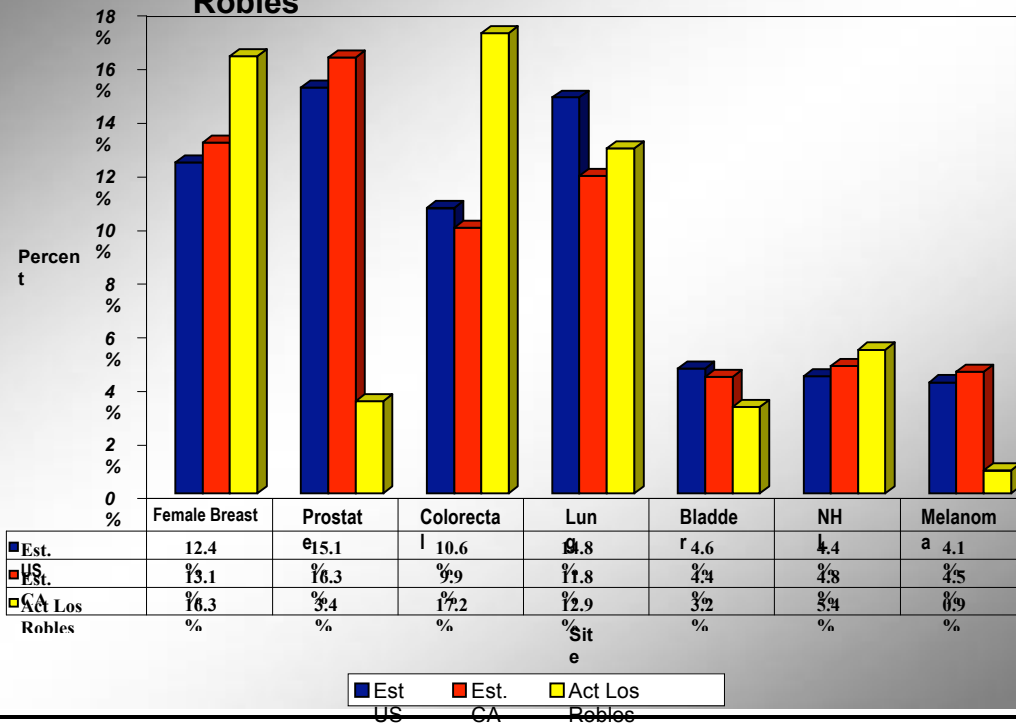


## Los Robles Hospital & Medical Center 2007 Class of Case Distribution

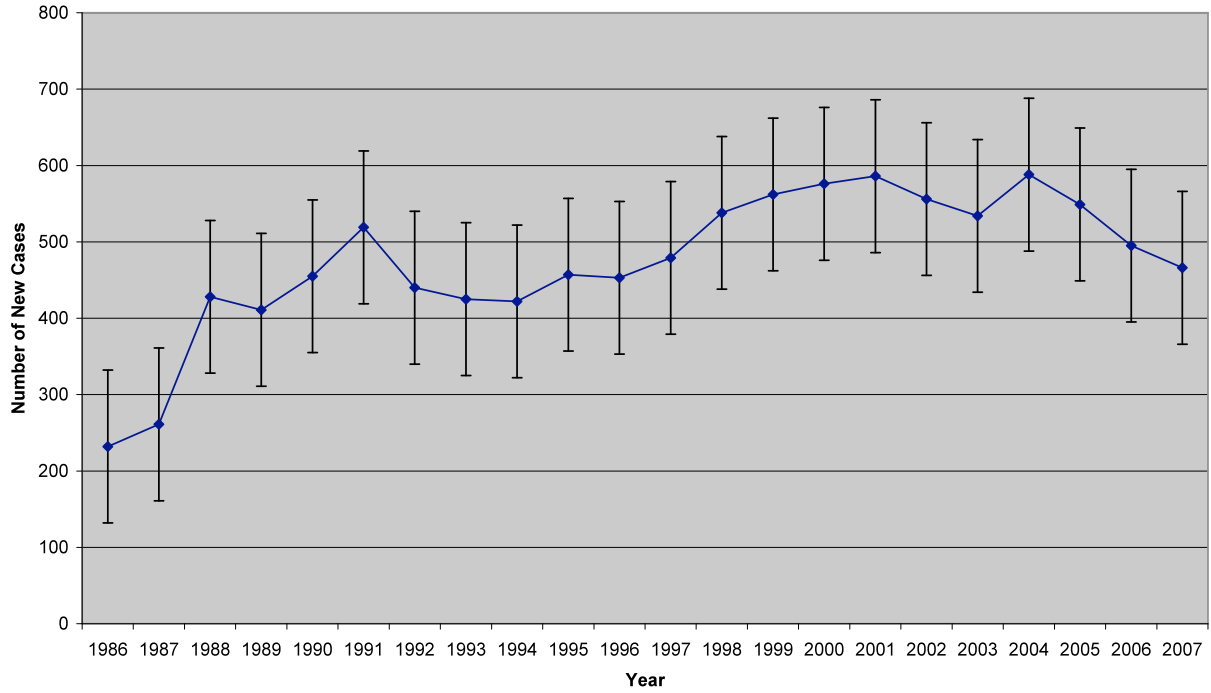


- 0 Diagnosed here, received first course treatment elsewhere
- 1 Diagnosed and first course treatment at Los Robles
- 2 Diagnosed at another facility and received first course treatment at Los Robles
- 3 Diagnosed and received first course treatment at another facility

### 2007 Comparison of Percent of New Cancer Cases Estimated United States & CA; Actual Los Robles



**Los Robles Hospital and Medical Center  
Incidence of New Cancer by Year 1986-2007**



**Questions and requests for data outcome reports are welcome. Please contact the Cancer Registry at (805) 370-4705**

# **2008 ANNUAL REPORT**

## **Los Robles Hospital and Medical Center**

**By Eugene Ahn, M.D.**

### **INTRODUCTION**

The Cancer Committee at Los Robles Hospital and Medical Center, as part of a regular annual survey, has authorized a review of patients treated with Gamma Knife radiosurgery during 2006 to 2007. The goal was to simply evaluate and document outcomes of our multi-disciplinary cancer center here at Los Robles Hospital and Medical Center. More specifically this study sought to evaluate the tolerance and efficacy of Gamma Knife radiosurgery in the treatment of brain metastases. This would then enable our cancer program to compare these results with nationally published outcomes from Gamma Knife radiosurgery.

### **BACKGROUND**

Brain metastases represent intracranial spread of malignant disease that originated outside the brain. Metastatic brain tumors are much more common than primary brain tumors and conservative estimates indicate 100,000 to 170,000 new cases are diagnosed each year in the United States. The pathophysiology of metastatic disease occurs through the hematogenous deposit of malignant cells usually within the gray-white junction of the brain. Metastases, however, have been found in nearly all possible locations within the brain. The majority of brain metastases are located in the cerebral hemisphere at approximately 80% followed by the cerebellum (15%) and then brainstem (3%). Metastases can also be extra dural as well within the leptomeninges.

The clinical presentation of brain metastases is similar to any intracranial mass. Thus presenting symptoms include headache, seizures, cognitive impairment, and focal neurological deficits related to the site within the brain affected. Diagnosis is usually performed with MRI as it has been clearly demonstrated to be the most sensitive and specific tool for the diagnosis of brain metastases. Lesions are usually isointense to mildly hypointense on T1-weighted images and hyperintense on T2 sequences. Contrast enhancement in a solid, nodular, or ring enhancing pattern is typically seen after injection of Gadolinium.

The management of brain metastases has evolved significantly over the last two decades. Needless to say, the diagnosis of brain metastases still remains one of the most serious diagnoses that a cancer individual can still have. Median survival is still discussed in the context of months and not years. Even in this dismal setting, however, one can still find hope through improved survival outcomes.

Treatments options usually consist of either surgery, whole brain radiotherapy, or stereotactic radiosurgery. Each of these modalities by itself or any combination of the above is a reasonable treatment in the management of brain metastases. Chemotherapy, so far, has demonstrated limited effectiveness in this arena.

Multiple prospective randomized trials have now been published comparing different combinations of whole brain radiotherapy, radiosurgery, and surgical resection. Our paper will focus on outcomes from Gamma Knife radiosurgery. Gamma Knife radiosurgery is a form of Stereotactic radiosurgery (SRS). Stereotactic radiosurgery is defined as a non-invasive surgical technique that employs highly focused radiation to treat intracranial targets with submillimeter precision in a single session. SRS does not cause the physiological stress of an open craniotomy, can be performed in an outpatient setting, can also treat multiple lesions in the same session, and offers control rates as good or probably superior to surgical resection. The advent of such a safe and effective device has now led to the widespread use of SRS in the management of brain metastases.

The Los Robles Hospital and Medical Center Gamma Knife program was initiated in January 2006 after years of discussion of bringing such a stereotactic radiosurgery option to Ventura County. In reality, this device serves a much larger population as this Gamma Knife remains the closest Gamma Knife unit for the entire central coast of California. Thus we serve an area that includes western Los Angeles County, Ventura, Santa Barbara, and San Luis Obispo Counties.

## **METHODS**

Our study represents a retrospective review of charts to document outcomes from the Los Robles Gamma Knife Center. Initial review of these records was performed from the staff of the Cancer Registry and Gamma Knife Center. Outcomes reviewed in this study included overall survival, local control, and the presence of radiation necrosis. Survival or death was confirmed through the cancer registry. Local control was defined as the absence of enlarging enhancement of a treated tumor from a follow up MRI. If tumor progression or increase in size was documented on MRI then further evaluation by a Gamma Knife physician was required. Follow up MRI was then reviewed to confirm either local progression or radiation necrosis. Follow up MRI was obtained through contacting the radiology facility directly or through the oncology office of a particular patient.

Briefly, a total of 88 patients received Gamma Knife radiosurgery for the treatment of brain metastases between January 2006 and December 2007. Out of these 88 patients follow up MRI were available on 67 patients. 13 patients expired before a follow up MRI was available and another 8 simply did not have follow up MRI's performed. Thus were able to evaluate 67 patients. Many of these patients also had prior surgery or whole brain radiotherapy.

## RESULTS

Again, we were able to obtain survival data on 88 patients treated with Gamma Knife radiosurgery between 2006 and 2007. Average survival for these 88 patients was found to be 7.5 months. The median survival was calculated to be 5.5 months. We did not perform a Kaplan Meier evaluation for actuarial survival. Thus our data is limited to survival based upon dates of treatment and follow up data.

The distribution of primary tumor sites indicates that lung and breast carcinoma were by far the most common primary sites. Lung cancer and Breast cancer comprised 48 and 22 percent of the total number of patients treated respectively. Distribution by sex was relatively even at 48 females and 40 males.

A total of 67 patients with follow up MRI scans were available. Out of these 67 patients only two patients had documented failure from Gamma Knife treatments and additional 4 patients experienced symptomatic radiation necrosis. Radiation necrosis was not considered a treatment failure but a well documented side effect of SRS. Radiation necrosis occurred in 6% percent of all patients treated. Overall local control was found to be 97%.

## DISCUSSION

Our Los Robles Hospital Gamma Knife Center results do compare favorably to many published papers from recognized centers of excellence. These papers again represent retrospective studies on the effectiveness of radiosurgery for brain metastases. For example, local control and survival from University of Pittsburgh was published as 85-90% with survival of 7-11 months respectively. Harvard reported 83% local control with median survival of 9 months. One of the largest studies from Gerosa published in 2005 Journal of Neurosurgery reports local control at 95% and median survival of 14.5 months on 504 patients.

Our superior local control results are probably more indicative of optimizing treatment with a combination of whole brain radiotherapy and surgery rather than proof of superior treatment efficacy. The previous studies employed Gamma Knife radiosurgery alone without the aid of surgery or whole brain radiotherapy. It would make sense that local control should improve when adding additional modalities with proven efficacy in the treatment of brain metastases.

In addition, local control was based upon 67 patients with available follow up MRI scans. It is unknown whether or not the missing data would have changed our 97% local control. Some patients died before follow up MRI was ever performed.

In addition, our rate of radiation necrosis will probably continue to rise as our follow up for many patients was simply not long enough to document this side effect. Radiation



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## Glossary of Terms and Abbreviations

<b>Accession:</b>	To enter a case into the Cancer Registry database.
<b>AJCC (TNM) Stage:</b>	A classification scheme developed by the American Joint Committee on Cancer (AJCC.)  <b>T</b> The size and extent of the primary tumor.  <b>N</b> The absence or presence and extent of regional lymph node metastases.  <b>M</b> The absence or presence of distant metastases.  For each applicable primary site, a combination of T, N and M elements gives a classification of Stage 0, I, II, III, IV or unknown.
<b>Analytic:</b>	Cases which were first diagnosed and/or received all or part of their first course of treatment at Los Robles Hospital & Medical Center.
<b>First Course of Treatment:</b>	The initial cancer-directed treatment or series of treatments, usually initiated within four months of diagnosis.
<b>LN:</b>	Lymph node.
<b>LRHMC:</b>	Los Robles Hospital & Medical Center.
<b>Metastases:</b>	Disease (pertaining to cancer) that has spread to parts of the body remote from the primary site.
<b>Primary Site:</b>	Anatomical site of the patient's cancer diagnosis.
<b>Stage of Disease:</b>	Describes the extent of disease based on all diagnostic and therapeutic evidence available by the end of the first course of therapy, or within four months after beginning treatment.
<b>Survival Rate:</b>	The survival rates are calculated using the actuarial method of observed survival rates. Takes into account patients with observation of varying lengths and patients lost to follow-up.

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