



Comprehensive Cancer Center
at
Desert Regional Medical Center
2016 Annual Report



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Welcome

*Amir Lavaf, M.D.
Chairperson, Cancer Committee
Desert Regional Medical Center*



On behalf of the Cancer Committee at Desert Regional Medical Center, welcome to the 2016 Annual Report of the Comprehensive Cancer Center.

This year we are featuring a report on lung cancer, an update on the top five cancers, new cancer prevention and screening programs, and a look at the future of cancer care.

You'll also read about new technology in radiation therapy to help deliver treatment more precisely and to help minimize side effects. Our excellent patient satisfaction scores round out our report.

Congratulations to everyone on your achievements and *thank you* for all you do to care for our families and neighbors with cancer.

A handwritten signature in blue ink, appearing to read "Amir Lavaf". The signature is fluid and cursive.

CANCER COMMITTEE

Amir Lavaf, M.D., Chairperson

*Teresa Whipple
Cancer Program Administrator/Director
Community Outreach Coordinator*

*Janet K. Ihde, M.D., F.A.C.S.
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*Gracie Melero
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Program Overview



Teresa Whipple
Executive Director

Elber S. Camacho, M.D.
Medical Director

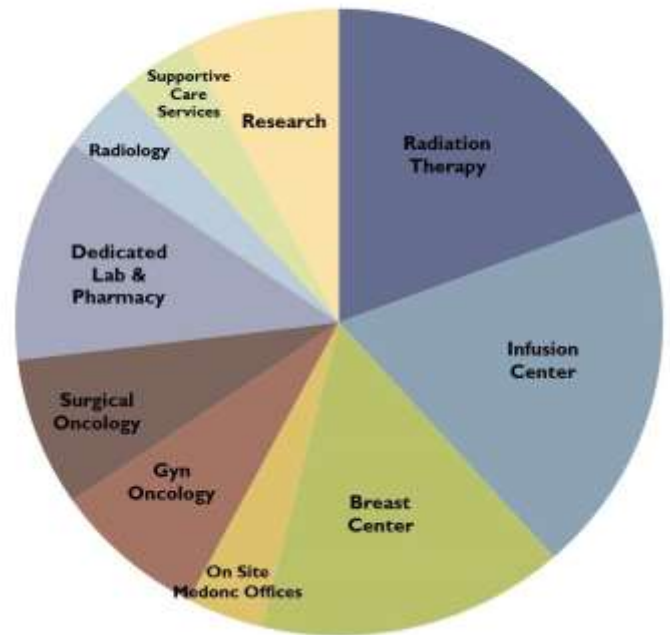
The mission of the Comprehensive Cancer Center at Desert Regional Medical Center is to provide high quality cancer care close to home. DRMC is accredited by the American College of Surgeons, Commission on Cancer as a Comprehensive Community Cancer Program. The foundation of our program is multidisciplinary care that includes physicians, certified oncology nurses, support services, genetic counseling, and access to clinical trials. Tumor boards with case discussion are coordinated among the specialists and providers. Our hope is that all of these efforts help patients receive quality care without the added stress of traveling long distances for treatment.

The Comprehensive Cancer Center opened with Radiation Oncology in 1989 and shortly after, launched Medical Oncology services. Over the years, the CCC developed many innovative programs for the desert region and now features a cancer program that includes:

- Medical Oncology
- Radiation Oncology
- Surgical Oncology
- Gynecologic Oncology
- Thoracic Oncology
- Gastrointestinal Malignancies
- Neuro-Oncology
- Comprehensive Breast Center with weekly multidisciplinary pretreatment conferences
- General Tumor Board Conferences
- GI Tumor Board Conferences
- Oncology Supportive Care Services
- Clinical Research
- Complementary Medicine and Pain Management

Mindful of all of these milestones, we congratulate the entire oncology team and Desert Regional Medical Center for coming together over the years to help anticipate and meet the cancer care needs of our community.

Comprehensive Cancer Center Services



Our 2016 Goals

The Cancer Committee established clinical and programmatic goals that help anticipate the healthcare priorities of our growing community and help fulfill our original mission to provide quality care close to home. The following are the Comprehensive Cancer Center's 2016 goals and their achievement:

Clinical Goals:

- Our first clinical goal was to install a new TrueBeam System in Radiation Oncology. This occurred in the summer of 2016. This advanced technology in radiotherapy includes image-guided radiotherapy (IGRT), intensity-modulated radiotherapy (IMRT) and RapidArc radiotherapy. According to the manufacturer, as of June 2017, the Comprehensive Cancer Center at Desert Regional was/is the first Center in the Inland Empire to provide this leading edge technology.
- A second goal was to bolster the Gastro-Intestinal Program with the recruitment of a new gastroenterologist, colorectal surgeon and medical oncologist specializing in GI malignancies. All specialists were on board by July 2016 and participating in a new monthly GI cancer conference focusing on more complex cases.

Programmatic Goals:

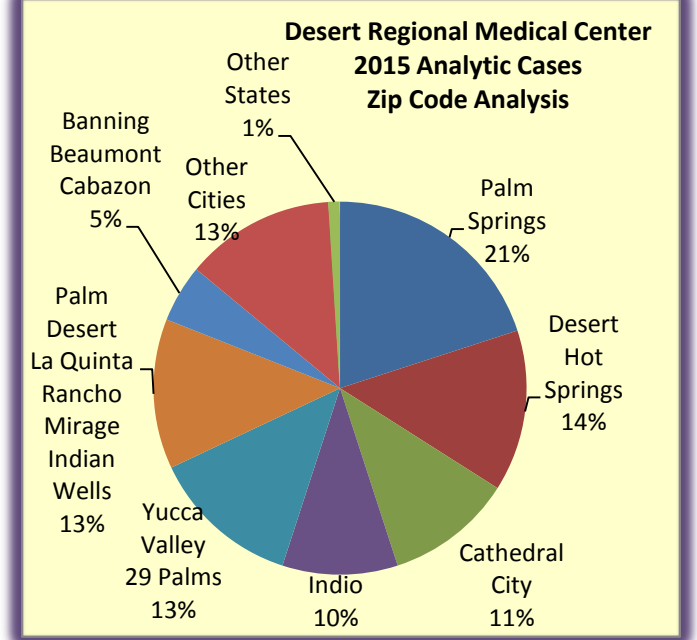
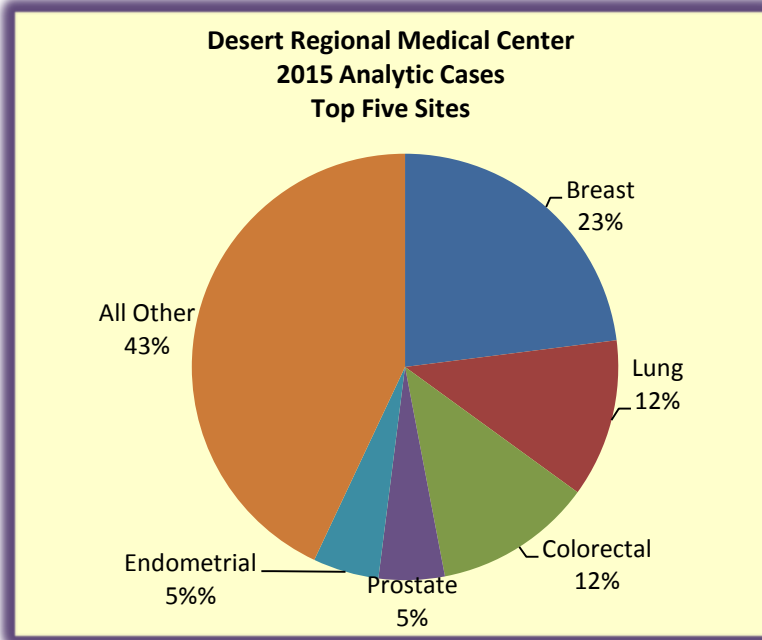
- The first goal was to expand oncology access and coverage in the East Valley with the recruitment of an additional hematologist/oncologist. This oncologist came on board in 2016, specializes in GI cancer and also serves as Director of Oncology Research Program.
- A second goal was to launch a Men's and Women's Health Oncology Lecture series to provide free public education on cancer prevention, detection and treatment. The public talks were held throughout 2016 as part of our community outreach program.
- Finally, a goal to bolster our genetics program through a partnership with Informed DNA resulted in the provision of genetic counseling services. This was established in February 2016.

The accomplishment of each of these goals further supports the cancer program at Desert Regional Medical Center and helps foster additional progress in program development.



The Community We Serve

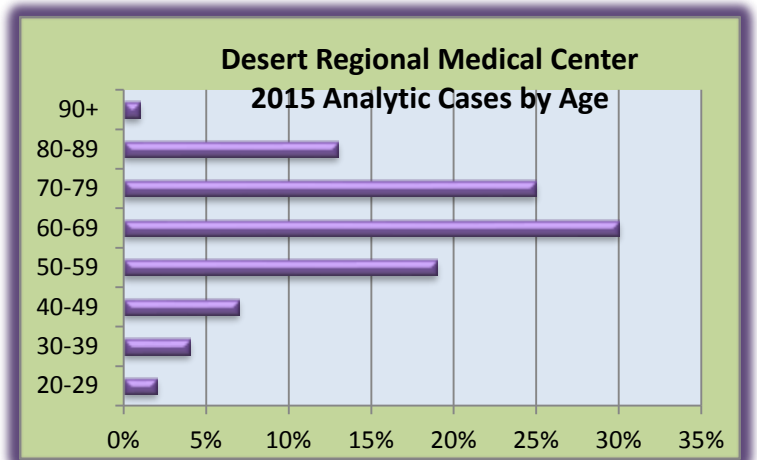
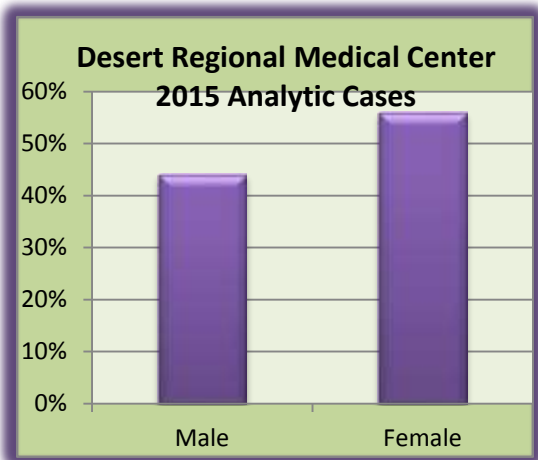
The graphics below provide a snapshot of our 2016 analytic patient population. The most common new cancer sites were breast, lung and colorectal -- an ongoing trend similar to state and national data.



Breast, lung, colorectal, prostate and endometrium were the top five cancer sites. The next five sites, lymphoma, stomach, melanoma, bladder, and nervous system round out the top ten. Zip code analysis show patients reside in the surrounding areas.

Desert Regional Medical Center Top Five Site Caseload Comparison			
Percentage of Total Invasive Cancer Cases			
SITE	DRMC	CALIFORNIA	UNITED STATES
Breast	20%	15%	15%
Lung	12%	10%	13%
Colorectal	12%	8%	8%
Prostate	6%	10%	11%
Endometrium	5%	4%	4%

*Analytic (patients diagnosed and/or treated first course) Cases 2015 DRMC and Estimated New Cases 2016 California and United States. Source: Cancer Facts and Figures 2016, page 5.



New patients were 56% female and 44% male. The age range was 17 through 97; the median age was 65 years.

Patient Satisfaction Scores: An Annual Overview

Fostering an excellent patient experience is an ongoing objective of the Comprehensive Cancer Center team. To help receive timely feedback on patient care, CCC contracts with Press Ganey Associates to survey patients in active treatment. In 2016, the Comprehensive Cancer Center received patient satisfaction surveys from 276 patients. The mean overall scores each quarter for the year continued a trend that is consistently above 90. Questions related to quality of care, scheduling, registration, radiation therapy, chemotherapy, the doctors, nurses and other professional services. Patients are also able to write comments. The surveys are anonymous and feedback is provided to managers, physicians and staff to acknowledge their quality of care and help identify performance improvement initiatives.

We are pleased to report these scores for the final quarter of 2016:



The image shows a table titled "Patient Satisfaction Scores" for Q4 2016. The table lists various categories and their corresponding scores. The scores range from 90.2 to 96.8. The overall score is 92.9. The categories include Overall, Scheduling Your Visit, Registration, Oncologists, Radiation Therapy, Chemotherapy, Special Services (Pharmacy, Social Work, Dietitian, Imaging), Nurses, Personal Issues, Tests (Blood draw), and Overall Assessment (Quality, coord. of care; likely to recommend).

	Q4 2016
Overall	92.9
Scheduling Your Visit	90.2
Registration	92.4
Oncologists	91.0
Radiation Therapy	96.8
Chemotherapy	93.0
Special Services (Pharmacy, Social Work, Dietitian, Imaging)	91.2
Nurses	94.1
Personal Issues	90.5
Tests (Blood draw)	93.8
Overall Assessment (Quality, coord. of care; likely to recommend)	94.0

Source: Press Ganey Associates, Inc., South Bend, IN 46601, 2016

Multidisciplinary Cancer Conference

To help ensure high quality care was provided, cancer cases were reviewed each week at our general and breast tumor conferences. A thoracic tumor conference was held monthly. At these conferences, a multidisciplinary team discussed options for the management of complicated cases, treatment regimens and clinical research trial eligibility. Nationally recognized, evidence-based guidelines were utilized by the team of medical oncologists, radiation oncologists, surgeons, diagnostic radiologists, and pathologists to develop a treatment plan tailored to each patient. Representatives from the oncology nursing, pharmacy, nutrition, and psychosocial departments helped to further meet the needs of the whole person.

Through the collaborative efforts of the team:

- 97 tumor board meetings were held; 28% of our analytic cancer patients were presented.
- 99% of cases were discussed prospectively.
- Average of 30 physicians and clinicians attended each facility-wide general and thoracic conference.
- Average of 11 physicians and clinicians attended each site-focused breast pretreatment conference.
- 100% attendance by required physicians with multiple representatives from each discipline achieved.

Cancer Prevention and Screening Programs



Breast Surveillance Clinic Program and Genetic Risk Counseling
Janet Ihde, M.D., F.A.C.S.
Medical Director, Women's Health Program

To help foster protection against breast cancer and help detect breast cancer early, the Comprehensive Cancer Center launched a Breast Surveillance Clinic Program in 2016. This program offers consults, exams, risk assessment testing and follow-up for patients who may be, or who have been identified as being, at high risk for breast cancer. This Clinic was an important addition to our Women's Health Program.

With the permission of the patient's referring physician, our multidisciplinary team works collaboratively to develop a follow-up program with the goal of detecting any breast disease early, when there may be more options for less aggressive treatment. The team includes specialists in surgical oncology, medical oncology, radiation oncology, radiology, pathology and supportive care including nutritional counseling, breast self-examination by a trained MammaCare nurse, and hormonal counseling. Referrals to genetic risk counseling are also offered to those patients where appropriate.

Lung Cancer Screening for High-Risk Patients

Our screening program for high-risk patients (current smokers age 55-74 with at least a 30-pack year history of smoking or former smokers who have quit within 15 years) continued in 2016. Development of the program was in response to the 2010 National Lung Screening Trial that showed 20% fewer deaths among current and former heavy smokers who were screened with CT compared to standard chest x-ray. (1) It is our mission to detect lung cancer at an earlier, more treatable stage to help reduce mortality of this aggressive cancer.

Source: Cancer Facts and Figures 2016, page 16

Lung Nodule Program

Another important early detection program at the Comprehensive Cancer Center is the Lung Nodule Program, offered monthly and where cases are discussed prospectively. A multidisciplinary team of surgeons, radiologists, medical oncologists, and radiation oncologists discuss unusual lung findings and treatment recommendations. Follow up plans are coordinated with the patients' primary physician. Fifty-five patients were screened in 2016. There were no patients diagnosed with cancer.

Clinical Operations Report



***Julihana Madison, R.N., BSN, MBA/HCM
Senior Manager, Clinical Operations***



***Timothy Tyler, Pharm.D., FCSHP
Senior Manager, Pharmacy, Lab and Supportive Care Services***

The professional services of the clinical team at the Comprehensive Cancer Center are delivered in an environment of empathy, compassion and support. To that end, each has a critical role: to impart education, surveillance and comfort to the patient and family so that they can go through their cancer journey with confidence.

The Comprehensive Cancer Center provides oncology nursing during the patient's visit with the doctor, during their treatment, and after hours. Patient education is paramount, from the time the patient first visits the Center through treatment and follow-up. Equally important is the training nurses receive to assess the whole patient and to help identify and resolve any concerns.

Many of the Comprehensive Cancer Center nurses have 10+ years of experience and certification by the Oncology Nursing Society. Their high standards of care foster the establishment and maintenance of a positive relationship with the patient, which enhances patient compliance with the treatment regimen. The patient knows that the nurses care and that they take time to be with them -- not because it's their job -- but because it's their passion.

Through our holistic approach, nurses help coordinate care among the oncologists, clinical teams, treatment, pharmacy, lab and supportive care services. As they become acquainted with the patient, they help identify services that might be beneficial, including nutrition education, social services, and

complementary therapies offered at the Center such as Reiki, yoga and Tai-Chi. The goal is to treat the whole person and attend to any practical issues that may arise.

The Cancer Center pharmacy has Doctors of Pharmacy who are specifically trained in oncology medications and pain management. They also are available to consult on supplements such as herbs, vitamins and minerals, and how they may affect a cancer treatment plan. To help attend to the patient's emotional, practical and dietary matters, the team includes a medical psychologist, social workers, and a registered dietitian.

Our dedication also is seen in our collaboration with inpatient oncology at Desert Regional Medical Center. Processes are in place for direct admission of the patient to the oncology wing if necessary. This team effort enhances the quality of care and a healing environment that is supportive of both patient and family.

Quality Improvements

As a result of quality studies that were done in 2016, two improvements that directly affect patient care were added to our program.

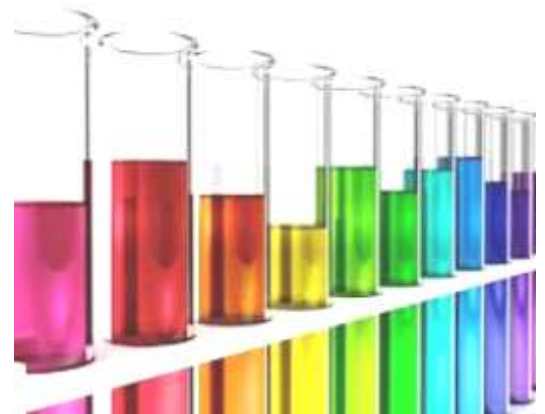
A new laboratory analyzer to improve turnaround time for results was requested and approved in April 2016 for the Comprehensive Cancer Center's satellite in La Quinta. Delivery was timely and once the new analyzer was in place, turnaround time for results was less than 15 minutes (average six minutes) for 90% of CBCs ordered) from time of blood draw. The outcome is that the delivery of therapy is more efficient because there is reduced wait time for lab results.

Secondly, we implemented a new process for oral chemotherapy follow-up that includes telephone contact with the patient within seven days of being prescribed the medication. Oncology nurses discuss issues of compliance, side effects, and how the treatment regimen is going. The outcome is that patients have a better understanding of their treatment plan and they have fewer questions for the physician at their follow up visit.

Clinical Research

Providing patients with access to clinical trials, where appropriate, is an integral part of services offered at the Comprehensive Cancer Center. Coty Ho, M.D. serves as the Medical Director of Oncology Research Program. Currently there are multiple open research studies in collaboration with a network of research entities throughout the country:

- Pharmaceutical Companies
- National Cancer Institute (NCI) Sponsored National Cooperative Groups
 - Southwest Oncology Group
 - National Surgical Adjuvant Breast and Bowel Project
 - Clinical Trials Support Unit
 - International Breast Cancer Study Group
 - Eastern Cooperative Oncology Group
 - Cancer and Leukemia Group B



Types of Trials:

- Phase I - IV
- Treatment Trials
 - Tissue Collection Studies
 - Pharmacokinetic Studies
- Breast, Colorectal, Prostate, Pancreatic, Hematology, Lung, Multiple Myeloma and Supportive Care

The following studies were underway in 2016:

Breast Cancer

Agendia MINT I: Multi-Institutional Neo-adjuvant Therapy MammaPrint Project I

Agendia PROMIS: Prospective Registry of Mammaprint in breast cancer patients with an Intermediate recurrence Score (OncoDx)

ECOG E4112: Prospective Study of Magnetic Resonance Imaging (MRI) and Multiparameter Gene Expression Assay in Ductal Carcinoma In Situ (DCIS)

Alliance A011202: A Randomized phase III trial comparing axillary lymph node dissection to axillary radiation in Breast Cancer patients (cT1-3 N1) who have positive sentinel lymph node disease after neo-adjuvant chemotherapy

NSABP B-51: A Randomized Phase III clinical trial evaluating post-mastectomy chestwall and regional nodal XRT and post-lumpectomy regional nodal XRT in patients with positive axillary nodes before neoadjuvant chemotherapy who convert to pathologically negative axillary nodes after neoadjuvant chemotherapy (*Adjuvant*)

GI Cancers

CTSU CALGB 80702: A Phase III study of Resected Stage III Colon Cancer; FOLFOX x 6 **vs** 12 + Celecoxib or Placebo (*Adjuvant*)

Hematology

Pfizer B3281006: A phase 3, Randomized, double-blind study of PF-05280586 versus Rituximab for the first- line treatment of patients with CD20-positive, low tumor burden, follicular lymphoma (*1st line*)

Lung Cancer (NSCL)

Alliance A151216: Enrichment Marker Identification and Sequencing Trial (ALCHEMIST) *Adjuvant Lung Cancer*

Alliance A081105: Randomized double Blind placebo controlled study of Erlotinib or Placebo in patients with completely resected epidermal growth factor receptor (EGFR) mutant Non-Small Cell Lung Cancer (*Adjuvant*)

ECOG E4512: A Phase III double blind trial for surgically resected early stage Non-Small Cell Lung Cancer: Crizotinib versus placebo for patients with Tumors harboring the anaplastic lymphoma kinase (ALK) fusion protein controlled

(Adjuvant)

Prostate

RTOG 0815: A Phase III Prospective Randomized Trial of Dose-Escalated Radiotherapy with or without short-term Androgen Deprivation Therapy for patients with inter-mediate risk Prostate Cancer

RTOG 0924: A Phase III Randomized Trial: Androgen deprivation therapy and high dose radiotherapy with or without whole pelvic radiotherapy in unfavorable high risk Prostate Cancer

Registry Studies

Celgene CONNECT MM: The Multiple Myeloma Disease Registry

Genentech ML28257: An Observational Cohort study of treatment patterns and outcomes in patients with HER2 positive (HER2+) metastatic breast cancer

SWOG S1204: A Sero-Epidemiologic Survey and Cost-Effectiveness Study of Screening for HIV, Hepatitis B and Hepatitis C Among Newly Diagnosed Cancer Patients

Supportive Care

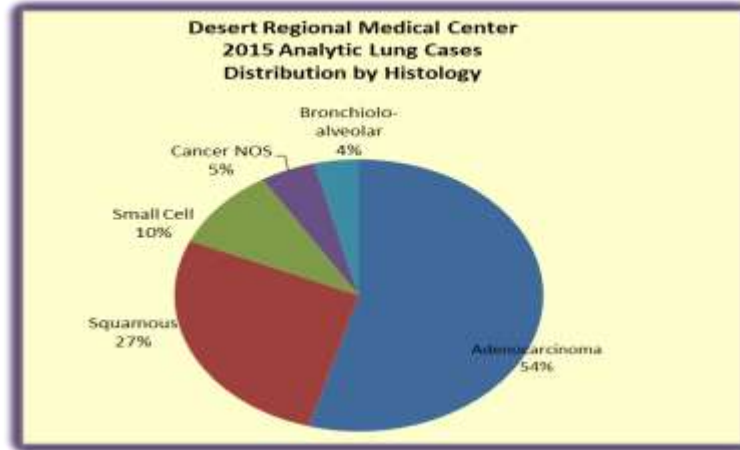
Amgen 20070782: A randomized, double-blind, placebo-controlled study to evaluate the long-term safety and efficacy of Darbepoetin Alfa administered at 500ug once-every three weeks in anemic subjects with advanced stage Non-Small Cell Lung Cancer (**NSCLC**) receiving multi-cycle chemotherapy.

Please note: Recruiting status for trials may change or new trials may be available. For more information please call: 760-416-4736.



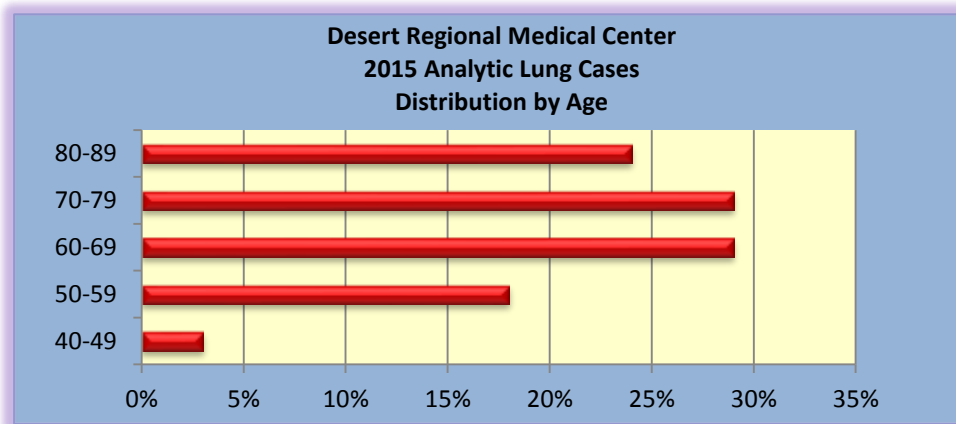
Lung Cancer Report

Lung cancer is the second most common cancer diagnosed in the United States. Approximately 224,390 new lung cancer cases will be diagnosed in 2016, accounting for 14% of all cancer diagnoses. (1) Lung cancer is divided into two types, non-small cell carcinoma and small cell. Age at diagnosis tends to be in the older population. Lung cancer is typically diagnosed in late stage of disease when patients become symptomatic. (2) Desert Regional Medical Center statistics are detailed below.

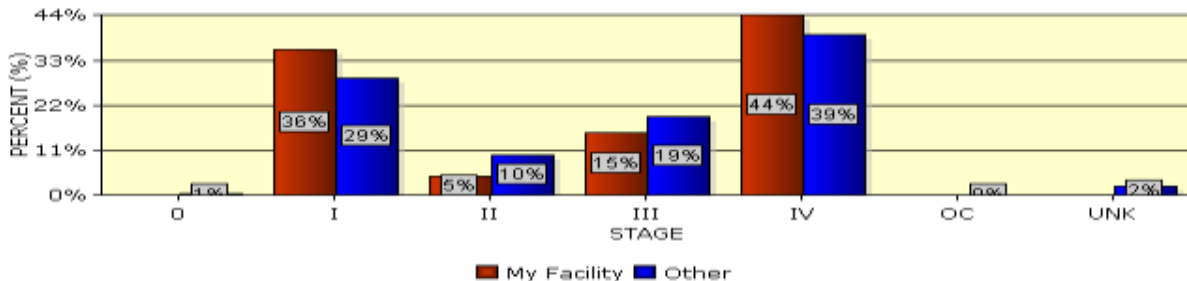


Cell type is a factor in treatment recommendations and prognosis.

Age was 28% for the 60-69 and 70-79 groups and 23% for 80-89.



Stage of Lung, Bronchus - Non-Small Cell Carcinoma Cancer Diagnosed in 2014
Desert Regional Medical Center, Palm Springs CA
vs. All Types Hospitals in All States
Combination: Class of Case 10-14 and Class of Case 20-22 - Data from 1418 Hospitals



	0	I	II	III	IV	OC	UNK
My Facility	1%	36%	5%	15%	44%	0%	0%
Other	2%	29%	10%	19%	39%	0%	2%

2014 data show 36% stage I, 5% stage II, 15% stage III and 44% stage IV DRMC compared to 29%, 10%, 19%, and 39% NCD. (3) In 2015, newly diagnosed lung cancer at DRMC was 2% stage 0, 27% stage I, 12% stage II, 21% stage III, and 38% stage IV.

Extent of disease at diagnosis is measured by the American Joint Commission on Cancer staging system. (4)

- Stage 0 is characterized as noninvasive.
- Stage I is localized based on size.
- Stage II is based on size, invasion of pleura and/or hilar lymph node involvement.
- Stage III has spread to regional sites with mediastinal or contralateral lymph node involvement.
- Stage IV is disease has spread to distant sites such as lung, brain, bone, liver, and brain.

The Surveillance Epidemiology End Results (SEER) program uses summary stage to measure extent of disease and outcomes. Overall 5-year survival for patients diagnosed 2005-2011 for all stages is 17% and local 55%, regional 27% and distant 4%. (5) Lung cancer is the highest cause of cancer death in both men and women.

1, 5 Cancer Facts and Figures 2016, pages 5, 21

3 NCDB Benchmark Reports, 2014, Desert Regional Medical Center database, 2015

2, 4 American Joint Commission on Cancer Staging Manual pp. 255-272

A Multidisciplinary Approach to Lung Cancer Care **Coty Ho M.D.** **Medical Director, Oncology Research Program**



The management of lung cancer is best achieved through a multidisciplinary approach that brings together multiple specialists and disciplines. At the Comprehensive Cancer Center, newly diagnosed lung cancer patients are evaluated by a team of physicians including a pulmonologist, interventional and diagnostic radiologists, pathologist, thoracic surgeon, medical and radiation oncologists. Each discipline provides an important component to care. A pulmonologist evaluates lung capacity to determine if the patient can withstand surgical resection. Utilizing bronchoscopy techniques, a pulmonologist obtains lung tissue for pathological diagnosis. Pathologists identify tumor type and perform molecular analysis that guides the selection of chemotherapy. A thoracic surgeon determines the best surgical procedure. Finally, a monthly thoracic tumor board is the forum used to discuss complicated cases and develop a treatment plan tailored to each patient.

Medical oncologists use chemotherapy, targeted and immunologic agents to treat patients with advanced stage of disease. For metastatic disease, testing for genetic mutations such as epidermal growth factor (EGFR) and ALK are performed routinely. After careful analysis of the tumor, the most effective regimen is administered. Advances in chemotherapy and immunotherapy allow oncologists to have a wide variety of options for patients who fail previous chemotherapies. New medications include pills that have fewer side effects compared to previous drug generations. Patients are now able to have a better quality of life while on treatment.

The team approach to cancer care continues from initial evaluation, treatment, recovery, and follow up. A nutritionist, oncology nurse and social workers monitor the patient's well-being throughout the course of disease. A clinical researcher screens patients for clinical trial eligibility. The trials provide access to medication and treatment regimens not yet approved by the FDA and expose patients to the most cutting edge therapies. In 2016, four clinical research trials were open for lung cancer patients.



Advances in Lung Cancer Treatment: Minimally Invasive Surgery
Eric R. Presser, M.D., F.A.C.S.
Thoracic Surgery

For select early stage patients, minimally invasive surgery may be the optimal choice. Minimally invasive video-assisted thoroscopic surgery (VATS) is performed by using a small video camera that is attached to a thoroscope and introduced into the chest cavity through one of four small incisions. The camera transmits magnified images of the chest cavity onto strategically placed monitors in the operating room. The surgeon removes the tumor by performing a lobectomy, samples regional lymph nodes, and sends the specimen to the pathology department for analysis and appropriate staging workup.

Outcomes of minimally invasive surgery are superior to traditional open surgery. The benefits of minimally invasive surgery are faster recovery time because there is no cutting of ribs or breastbone, shorter hospital stays, fewer surgical site infections, and less pain. A study published in *JAMA-Surgery* confirmed American hospitals collectively could prevent thousands of post-surgical complications by using minimally invasive procedures for lung, appendix, and colon. (1)

1 Martin A. Makary, MD, MPH et al. **Hospital Cost Implications of Increased Use of Minimally Invasive Surgery.** *JAMA Surgery*, March 25, 2015 DOI: 10.1001/jamasurg.2014.4052

Update: Stereotactic Body Radiotherapy for Early-stage Lung Cancer

Judy M. Jackson M.D.
Medical Director, Radiation Oncology

Over 30% of newly-diagnosed lung cancers present as early stage I or II disease which has a very high cure rate. Most of these patients can be treated with minimally invasive techniques that provide excellent local control of disease.

In the past, open surgical resection had been the gold standard for treatment of early lung cancer because it offered excellent local control of disease. But as our population continues to age and other medical illnesses are factored into the treatment equation, other minimally invasive and less stressful modes of treatment have emerged. These include minimally invasive surgical resection and stereotactic body radiotherapy. (2)



Historically, external beam radiation therapy has provided a very low overall survival and local control of disease in patients with lung cancer. This was a multi-factorial problem. The radiation dose was too low and some of the patients' lung cancers were more advanced. Prior clinical studies demonstrated a 30-70% recurrence rate with external beam radiation therapy alone. The addition of chemotherapy improved these rates modestly. (3) In past studies, patients received radiation therapy for advanced disease or they were significantly ill with advanced pulmonary disease, cardiac disease or history of stroke. This resulted in poor long-term outcomes because of the overall health of the patients and was not based on their lung cancer. In some cases, patients with medically inoperable lung cancer with other associated comorbid diseases were not offered any form of local treatment. (1)

Now, clinical studies and outcomes are demonstrating compatible outcomes in local control and survival in patients who receive minimally invasive surgery or stereotactic body radiotherapy for the treatment of early lung cancer. Stereotactic body radiotherapy is a treatment technique that utilizes specialized treatment planning to deliver a high-dose of radiation via multiple pinpoint treatment beams to the lung mass. A curative dose of radiation is delivered over three to five treatments with the intent of destroying the entire mass. Treatment is delivered with high accuracy without anesthesia, sedation, or pain medications. (1)



Gerald Tseng, Physicist, Dr. Judy Jackson and Dr. Amir Lavaf, Radiation Oncologists

A recent international study by the Radiation Therapy Oncology Group (RTOG) performed a feasibility study with 20 elderly patients greater than 85 years of age treated with stereotactic body radiotherapy for definitive treatment of their lung cancer. No difference in tumor control was noted based on age or their associated medical problems. (5) From this study, a second phase II study was launched, including 55 patients with stage I lung cancer treated with stereotactic radiotherapy alone in three treatments. A 98% local control of disease at three years was demonstrated. Stereotactic radiotherapy techniques continue to improve dose delivery and dose escalation to improve local control and survival. (6)

radiation to the lung. Radiation pneumonitis is described as partial lung scarring and swelling around the area of treatment. (1) Three phase III randomized trials compared stereotactic body radiotherapy to minimally invasive surgery in treatment of early stage lung cancer. An excellent overall survival in both groups was demonstrated. Side effects were reduced in the stereotactic body radiotherapy arm versus the minimally invasive surgery arm, 10% to 44% respectively. (7) The research demonstrated that stereotactic body radiotherapy can be utilized safely on patients with significant comorbid diseases and end-stage lung disease without reduction in their pulmonary function.

Radiation pneumonitis is the most common toxicity seen with stereotactic body

The National Comprehensive Cancer Network (NCCN) and European Society of Medical Oncology Clinical Practice Guidelines now consider stereotactic body radiotherapy as the first line treatment option for medically inoperable patients with early-stage lung cancer. (8) Stereotactic body radiotherapy is an attractive alternative therapy for several reasons. It can be performed outpatient, is non-invasive, requires no sedation or anesthesia, and has a very short treatment time with minimal side effects and an immediate return to normal activity.

At the Comprehensive Cancer Center at Desert Regional Medical Center, 39% of patients were diagnosed with stage I and II lung cancer in 2015. We are privileged to offer some of the newest technological advancements in the treatment of early stage lung cancer including the TrueBeam linear accelerator system, which was installed in 2016. This system specializes in the treatment of cancers in both brain and body sites. It offers stereotactic accuracy with treatment delivery speed. The TrueBeam linear accelerator can deliver a full treatment in 60-90 seconds while other radiosurgery machines require 20-30 minutes to deliver the same treatment dose. By shortening treatment time, patient movement during treatment is eliminated, increasing treatment accuracy and maximizing protection to surrounding uninvolved organs and tissues. The patient treatment couch allows

multidimensional positioning for tumor localization and patient comfort. With the use of this table system, no anesthesia or sedation is required. The TrueBeam treats in a 360-degree rotational pattern to gain the greatest access to the tumor mass and strategically spare surrounding normal tissues and organs. The TrueBeam linear accelerator gives patients a greater probability for cure while helping them to regain their normal life. We will continue to strive to eradicate all cancers in the service of our patients.

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The Future of Cancer Care



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Cancer continues to have a major impact on public health in the United States and throughout the world. An estimated 1,688,780 new invasive cancer cases will be diagnosed in 2017. (1) Cancer is the 2nd highest cause of death in the United States, accounting for nearly 1 in 4 deaths. (2) The lifetime chance of a cancer diagnosis is 1 in 2 for males and 1 in 3 for females. (3) These are sobering facts that demonstrate the significant burden of cancer in the United States today. The news is not all bad, however, because cancer deaths are on the decline since 1991 due to reduction in tobacco use, early detection, and improved treatment regimens.

(4)

Advances in cancer care are constantly evolving. Treatment regimens that can be matched with a patient's DNA to provide the most effective cancer treatments are currently being utilized for some tumor sites. In addition to targeted therapy, researchers are working to develop new agents to use the patient's own immune system to attack cancer and identify pathways that allow cancer to spread. These advancements are already increasing cancer survival time, resulting in lower cancer deaths, and less treatment complications. The ultimate goal is to find a cure or reduce cancer to a chronic, manageable disease. It is our hope that this will be achieved sooner rather than later and we thank our patients and families for their courage and commitment to fighting cancer. They are an inspiration to us all.

Sources:

1, 3 Cancer Facts and Figures, 2017, pages 5, 14,
2, 4 Cancer Facts and Figures 2016, page 1





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