

2018 AdventHealth Cancer Institute

Annual Report



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Welcome

On behalf of our entire care team, I would like to welcome you to AdventHealth. For more than 100 years, we have dedicated ourselves to improving the lives of others by delivering advanced health care to the communities we serve. Our mission — to extend the healing ministry of Christ — has inspired us to build a unique health network dedicated to providing comfort, healing, and the discovery of new treatments and cures.



We're honored to serve our community and look forward to building upon the medical advances and technologies that will define the future of health care.

Sincerely,

Daryl Tol
President and CEO
AdventHealth, Central Florida Region

The AdventHealth Cancer Institute (AHCI), formerly Florida Hospital Cancer Institute, is proud to present our 2018 Annual Outcomes Report, including 2017 activities and Cancer Registry data.

Vision Statement

To achieve national recognition as a cancer institute that provides patient access to value-based, personalized care through highly specialized, comprehensive, and innovative destination programs.

ADVENTHEALTH CANCER INSTITUTE FACTS

- AHCI is one of the largest cancer care providers in the state of Florida.
- Accredited as an Academic Comprehensive Cancer Program by the American College of Surgeons Commission on Cancer.
- AHCI is one of the most active clinical trial sites in the state. Our Clinical Research Center team participates in more than 175 clinical trials each year for all types of cancer.
- One of the most experienced radiation oncology programs in Florida and accredited by the American College of Radiology (ACR) for quality.
- Performing more than 100 adult bone marrow transplants annually and accredited by the Foundation for Accreditation of Cellular Therapy (FACT) for quality.
- World leader in robotic prostatectomy, with Central Florida's first da Vinci® Surgical System.
- Certified by the American Society of Clinical Oncology's (ASCO) Quality Oncology Practice Initiative for quality in medical oncology.
- Accredited by the National Accreditation Program for Rectal Cancer (NAPRC) for excellence in rectal cancer care.

Source: Florida Cancer Data Systems

Dear colleagues and community members,

AdventHealth Cancer Institute continues to build an extraordinary team of internationally and nationally known physicians who work across multiple programs in order to deliver exemplary care to all patients. We treat each patient individually, providing comprehensive care consisting of leading-edge treatments and therapies for both body and soul.

Our team is proud of its efforts, which have continually boosted five-year survival rates, exceeding most measured outcomes of nine national cancer registries. For many tumor sites, survival rates were significantly higher at AHCI.

Our institute is fast becoming a world-class oncology diagnostic and treatment center, and I am pleased to share the year's achievements and outcomes, including:

- Dr. Vipul Patel, a globally renown pioneer of robotic surgeries, performed his 10,000th robotic prostatectomy case via worldwide live stream in February 2017 from the Nicholson Center.
- Dr. J. Scott Magnuson of the Head and Neck Cancer program became the first physician in the world to use the da Vinci® SP™ Surgical System. Dr. Magnuson was the principal investigator in a study that used the system in TORS procedures for resection of malignant tumors.
- Our Center for Interventional Endoscopy continues to be the largest volume EUS unit in North American and was the fourth-largest program globally. In 2017, the center's Endoscopic Retrograde Cholangiopancreatography (ERCP) volume exceeded 1,638, and more than 600 endoscopic mucosal resection procedures were performed.
- Our Research program collaborated with such partners as the Moffitt Cancer Center, the American Society of Colon and Rectal Surgeons, and Duke University Medical Center on leading-edge studies, evaluating such things as groundbreaking immunotherapies and innovative surgical robotics.
- Through the generous support of donors and community partners, our Integrative and Creative Arts Therapies Program now has its own space on the Orlando campus where it holds monthly creative art support group sessions and offers complimentary individual sessions for oncology patients. Donors also made it possible for 3,000 cancer patients to receive vital financial assistance, and 2,660 women received scholarships for screening mammograms and diagnostic testing to detect breast cancer.

As the Florida Hospital system moves forward to take a new name – AdventHealth – in January 2019, know that we at AHCI remain dedicated to both the care of our patients and the pursuit of new treatments that will brighten the outlook for all.

Thank you for allowing us to serve you as we deliver the best in compassionate, comprehensive cancer care.

Warmly,



Mark A. Socinski, MD
Executive Medical Director
AdventHealth Cancer Institute
Member, Thoracic Oncology Program



Blood And Marrow Transplant



Steven Goldstein, MD

Medical Director
Blood and Marrow Transplant Program
AdventHealth Cancer Institute

The AdventHealth Cancer Institute's Blood and Marrow Transplant Program is Central Florida's first and only comprehensive blood and marrow transplant center for adults. Our program offers:

- Autologous transplants (a patient's own stem cells are used)
- Allogeneic transplants (a donor provides stem cells) from:
 - unrelated donors
 - matched sibling donors
 - haploidentical donors (half-matched donors within the family when no full match is available)
 - umbilical cord blood stem cells
- Pre-transplantation evaluations
- Peripheral blood stem cell collections/apheresis
- Bone marrow collections
- Comprehensive post-transplant care, including evaluation and management of acute and chronic graft vs. host disease (GvHD)
- ECP treatment (Extracorporeal Photopheresis, used for GvHD and cutaneous T-cell lymphoma)

The program is accredited by the Foundation for the Accreditation of Cellular Therapy (FACT) and the National Marrow Donor Program (NMDP). It participates in Blood and Marrow Transplant Clinical Trials Network (BMT-CTN).

2017 HIGHLIGHTS

- Performed 108 stem cell transplants.
- Continues to hold every Center of Excellence designation available for blood and marrow transplant.
- Achieved excellent survival results that met or exceeded the national average for the last several years.
- Introduced several poster presentations at international transplant meetings by the blood and marrow transplant program medical director.
- Opened three new clinical research trials for the prevention and treatment of acute and chronic GvHD.

Publications

Miller HK, Braun TM, Stillwell T, Harris AC, Choi S, Connelly J, Couriel D, **Goldstein S**, Kitko CL, Magenau J, Pawarode A, Reddy P, Riwes M, Yanik GA, Levine JE. Infectious Risk after Allogeneic Hematopoietic Cell Transplantation Complicated by Acute Graft-versus-Host Disease. *Biol Blood Marrow Transplant.* 2017 Mar;23(3):522-528. doi: 10.1016/j.bbmt.2016.12.630. Epub 2016 Dec 22. PubMed PMID: 28017733; PubMed Central PMCID: PMC5551893.

Saliba RM, Sarantopoulos S, Kitko CL, Pawarode A, **Goldstein S**, Magenau J, Alousi AM, Churay T, Justman H, Paczesny S, Reddy P, Couriel DR. B-cell activating factor (BAFF) plasma level at the time of chronic GvHD diagnosis is a potential predictor of non-relapse mortality. *Bone Marrow Transplant.* 2017 Jul;52(7):1010-1015. doi: 10.1038/bmt.2017.73. Epub 2017 May 8. PubMed PMID: 28481353; PubMed Central PMCID: PMC5687506.

Majchrzak K, Nelson MH, Bowers JS, Bailey SR, Wyatt MM, Wrangle JM, Rubinstein MP, **Varela JC**, Li Z, Himes RA, Chan SSL, Paulos CM. β -catenin and PI3K δ inhibition expands precursor Th17 cells with heightened stemness and antitumor activity. *JCI Insight.* 2017 Apr 20;2(8). pii: 90547. doi: 10.1172/jci.insight.90547. Epub PubMed PMID: 28422756; PubMed Central PMCID: PMC5396523.

Cooling L, Roxbury K, Hoffmann S, DeBusscher J, Kota U, **Goldstein S**, Davenport R. Use of allogeneic apheresis stem cell products as an interlaboratory proficiency challenge. *Transfusion.* 2017 Jun;57(6):1543-1554. doi: 10.1111/trf.14107. Epub 2017 Mar 28. PubMed PMID: 28370131.

Brain and Spine Oncology



Herbert B. Newton, MD, FAAN
*Medical Director
Neuro-Oncology Program
AdventHealth Cancer Institute*



Melvin Field, MD
*Surgical Director
Neuro-Oncology Program
AdventHealth Cancer Institute*

The AHCI Neuro-Oncology Program specializes in the diagnosis and comprehensive management of primary brain and spinal tumors for adult and pediatric patients, complications of malignant/low-grade brain and spinal tumors, secondary metastatic cancer directly affecting the brain and spinal cord, neurologic manifestations of cancers elsewhere in the body, and treatment-related complications affecting the central and peripheral nervous system.

Among the advanced treatments used in the Neuro-Oncology Program is the Leksell Gamma Knife® Perfexion radiosurgery system. The non-invasive outpatient procedure is used to treat malignant and benign brain tumors while leaving surrounding tissue intact. AdventHealth Gamma Knife Center is the first and only facility of its kind in Central Florida to offer Gamma Knife radiosurgery. It has treated thousands of patients with a multitude of different brain lesions since opening in 1996.

2017 HIGHLIGHTS

- In the fall of 2017 the Neuro-Oncology Program added a second neuro-oncologist, Dr. Sherif Makar. Dr. Makar is a Central Florida native, and attended Medical School and Neurology Residency training in Florida, followed by a Neuro-Oncology Fellowship at the prestigious Stanford University Medical Center in California.
- In 2017, the Neuro-Oncology Program cared for more than 1,500 patients with brain and spine cancers. The program treated 204 new patients, provided continuing care to 1,202 patients, and cared for more than 100 patients receiving chemotherapy with oral, intravenous, and intrathecal drugs.



Brain and Spine Oncology

Lectures and Presentations

Dr. Herbert Newton: Headaches and Brain Tumors, Florida Hospital Headache Symposium, Orlando; Jan. 27, 2017.

Dr. Herbert Newton: Neuro-Oncology Update: Florida Hospital Cancer Institute 6th Annual Best of ASCO 2017, Orlando; June 25, 2017.

Dr. Herbert Newton: The Neurobiology of Music: Part 1, Rollins College School of Music, Common Hour Class, Winter Park, Florida; Oct. 5, 2017.

Dr. Herbert Newton: The Role of the Neuro-Oncologist, FLASCO Fall Session, Orlando; Oct. 22, 2017.

Dr. Herbert Newton: Neurofibromatosis Type 1: Clinical overview and updates on molecular approaches to chemotherapy, FHCI Pediatric Neuro-Oncology Annual Neurofibromatosis Symposium, Orlando; Dec. 2, 2017.

Dr. Herbert Newton: Neuro-Oncology Update: Neuropathology, Optune and Immune Checkpoint Pathways, Neuro-Oncology Update FHCI, Orlando; Dec. 6, 2017.

Book Chapters

Vargo C, Ray L, **Newton HB.** Neurological complications of chemotherapy. In: Cancer Neurology in Clinical Practice. Neurological Complications of Cancer and Its Treatment, 3rd Edition. Schiff D, Kesari S, Wen PY (Eds.). Humana Press 2017;15:275-310.

Recognitions

Newton, HB; Handbook of Brain Tumor Neuro-Imaging, 2nd Edition, Highly Commended Honours, Radiology category, British Medical Association Awards, Sept. 11, 2017, London.

Research Grants

Moats RA, Newton HB. Integrative and Creative Arts Therapy Program, AdventHealth Cancer Institute, pilot program housed in the Neuro-Oncology Center; three years funded: \$202,122.50, \$220,639.90 and \$226,273.40, respectively; February 2017-February 2020.

Active Trials and Studies

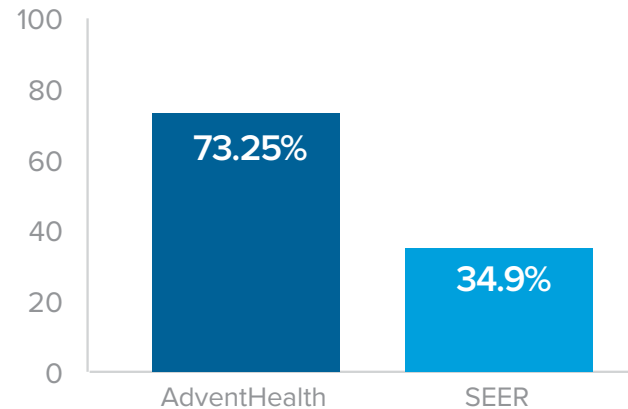
RTOG 3508/AbbVie M13-813, a trial for newly diagnosed glioblastoma patients who are epidermal growth factor receptor (EGFR) positive. The trial consists of radiation therapy, oral chemotherapy and an antibody drug conjugate (IV infusion). Three patients enrolled.

NRG-BN003, a study for newly diagnosed gross totally resected WHO grade II meningioma patients who have just had their brain tumors completely removed. The trial is comparing observation after surgery vs radiation therapy after surgery.

Brain and Spine Cancer Cases Five-Year Survival

CASES DIAGNOSED 2007-2013

More than 73 percent of AHCI patients had survival rates of five years – significantly higher than the national survival rate of less than 35 percent.



AHCI Tri-County vs. SEER (SEER = Surveillance, Epidemiology and End-Results) Source: AHCI Cancer Registry, SEER.gov CanQues

Breast Oncology



Carlos Alemany, MD
*Medical Director
Clinical Research
AdventHealth Cancer Institute*

As a leader in breast cancer treatment, AHCI employs a wide range of therapies, including surgery, radiation therapy, chemotherapy, hormonal therapy and targeted therapy. Our multidisciplinary approach provides comprehensive care that enables patients to coordinate appointments with different specialists within the same day and promptly receive coordinated treatment recommendations. Breast cancer care coordinators assist patients through every step of their treatments and offer moral support. After-care and support help patients transition back to their day-to-day lives. AHCI is an innovator in community outreach that has provided thousands of screenings to underserved women.

Publications

Mellon EA, **Orman A**, Joya LE, Montejo ME, Laronga C, Hoover SJ, Lee MC, Khakpour N, Kubal PF, Diaz R. Frequency of whole breast radiation therapy after intraoperative radiation therapy due to criteria identified by lumpectomy. *Brachytherapy*, 2017 Jan-Feb; 16(1):174-180. doi: 10.1016/j.brachy.2016.09.012. Epub 2016 Nov 2. PubMed PMID: 27816540.

Parra NA, **Orman A**, Padgett K, Casillas V, Punnen S, Abramowitz M, Pollack A, Stoyanova R. Dynamic contrast-enhanced MRI for automatic detection of foci of residual or recurrent disease after prostatectomy. *Strahlenther Onkol*, 2017 Jan; 193(1):13-21. doi: 10.1007/s00066-016-1055-z. Epub 2016 Oct 19. PubMed PMID:27761612; PubMed Central PMCID: PMC5559220.

Abstracts

Yang GQ, Mills M, Ahmed KA, Laronga C, **Orman AGB**, Diaz R. Characteristics of Radiation Therapy for Medullary Carcinoma of the Breast in the National Cancer Database, Annual Meeting of the American Society for Therapeutic Radiation Oncology (ASTRO), Sept 2017, San Diego; *International Journal of Radiation Oncology Biology Physics* 99(2): Supplement S: E58-E58, meeting abstract 2135, published Oct 1, 2017.



Louis Barr, MD
*Chair
Breast Program Leadership
AdventHealth Cancer Institute*

Oliver DE, Mills M, Yang GQ, Yuan ZM, Ahmed KA, Hoover SJ, Diaz R, **Orman AGB**. Trends of Radiation Therapy in Metaplastic Breast Cancer – A National Cancer Database Study, Annual Meeting of the American Society for Therapeutic Radiation Oncology (ASTRO), Sept 2017, San Diego, *International Journal of Radiation Oncology Biology Physics* 99(2): Supplement S: E38-E39, meeting abstract 2091, published Oct 1, 2017.

Mellon EA, Diaz R, Montejo ME, Laronga C, Lee MC, Hoover SJ, Khakpour N, Kubal PF, **Orman AGB**. Rates of Whole Breast Radiation Therapy Following Intraoperative Radiation Therapy Using 2009 and 2016 ASTRO Consensus Guidelines. Conference: Annual Meeting of the American Society for Therapeutic Radiation Oncology (ASTRO), San Diego, Sept 2017; *International Journal of Radiation Oncology Biology Physics* 99(2): Supplement S: E35-E35, meeting abstract 2083, published Oct 1, 2017.

Orman AG, Ma ZJ, Zhou JM, Portman D, Jim H, Johnstone P, Yu M. A Modified Edmonton Symptom Assessment Scale for Symptom Clusters in Radiation Oncology Patients, American Radium Society (ARS) meeting, Colorado Springs, Colo., May 2017; *International Journal of Radiation Oncology Biology Physics* 98(2): Supplement S: E56-E45, meeting abstract P110, published June 1, 2017.

Mills M, Yang GQ, Ahmed KA, Khakpour N, **Orman AGB**, Diaz R. Trends of Radiation Therapy in Metaplastic Breast Cancer – A National Cancer Database Study. Annual Meeting of the American Society for Therapeutic Radiation Oncology (ASTRO), San Diego, Sept 2017; *International Journal of Radiation Oncology Biology Physics* 99(2): Supplement S: E36-E36, meeting abstract 2085, published Oct 1, 2017.

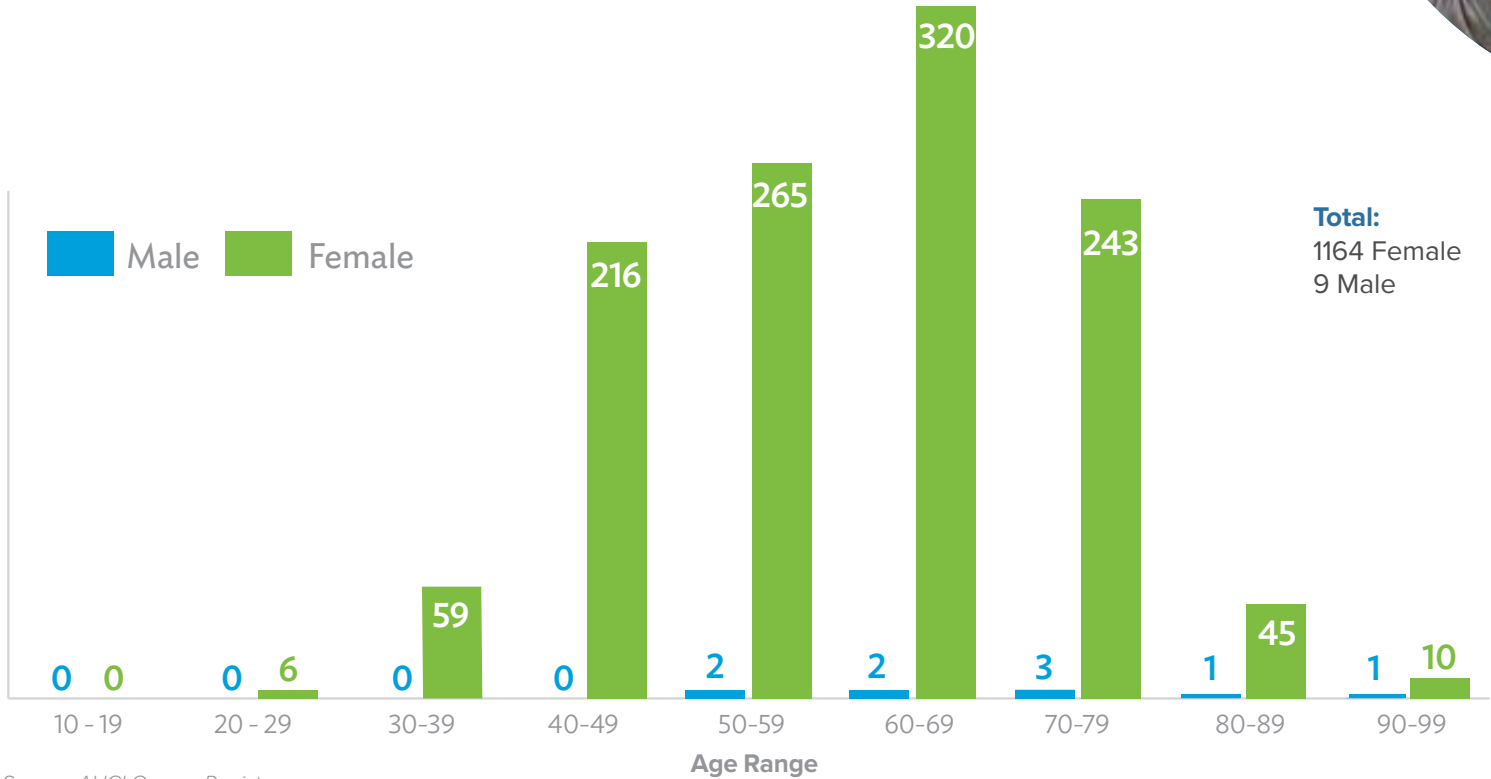


Breast Oncology

Breast Cancer Cases

AGE AT DIAGNOSIS BY GENDER

In 2017, 27 percent of women diagnosed with breast cancer were from 60 to 69 years old. Almost 90 percent of women were diagnosed between the ages of 40 and 79.



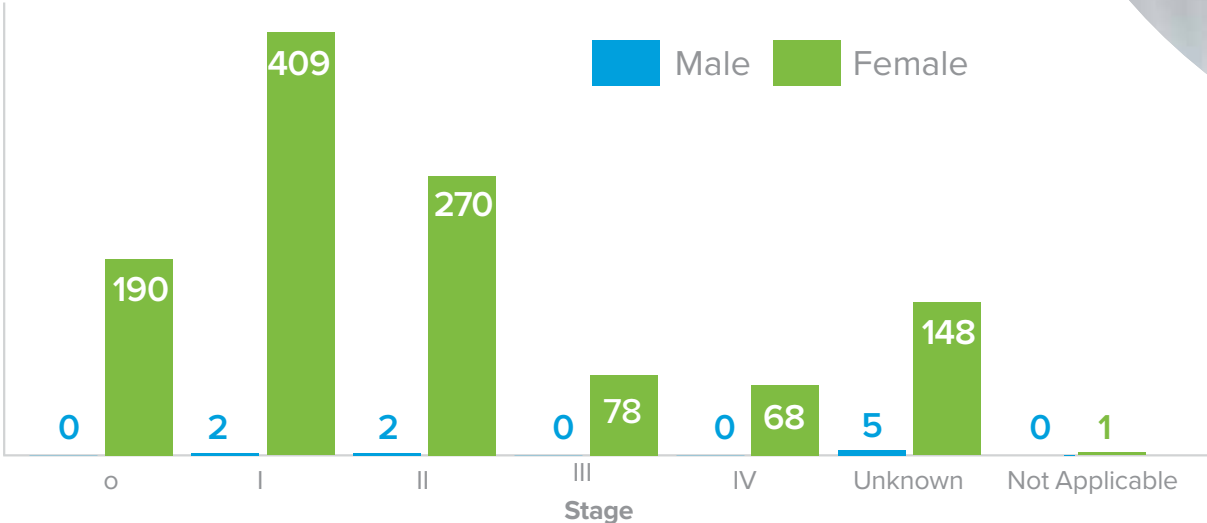
Source: AHCI Cancer Registry

Breast Oncology

Breast Cancer Cases

STAGE AT DIAGNOSIS BY GENDER

At AHCI, 1,173 new cases of breast cancer were diagnosed or treated in 2017. Nearly 75 percent of them were identified in early stages (0, I, II), demonstrating the continued effectiveness of building awareness through early screenings.



Breast Oncology

First-Course Surgery Type

BY STAGE AT DIAGNOSIS

Lumpectomy was the first course of treatment for 47 percent of breast cancer patients in 2017, followed by mastectomy for 36 percent of cases.

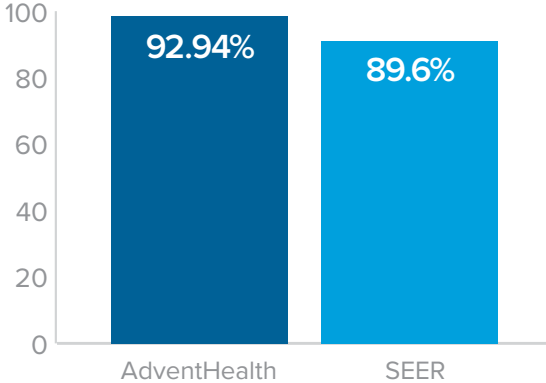
Cancer Directed Surgery Code	0	I,IA,IB	II,IIA,IIB	III,IIIA,IIIB	IV	Unknown	Others	Total
No Surgery	11	30	50	16	59	33	2	201
Lumpectomy	119	258	105	8	3	49	5	547
Mastectomy	60	123	117	53	5	52	9	419
Surgery, Not Otherwise Specified	0	0	0	1	1	4	0	6
Overall Totals	190	411	272	78	68	138	16	1173

Source: AFHCI Cancer Registry

Breast Cancer Five-Year Survival

CASES DIAGNOSED 2008-2014

The five-year survival rate for breast cancer patients treated at AHCI compared favorably to national data.



AHCI Tri-County vs. SEER (SEER = Surveillance, Epidemiology and End-Results) Source: AHCI Cancer Registry, SEER.gov CanQues



Colorectal Oncology



John R. T. Monson, MD, FRCS, FASCRS, FACS

*Surgical Director
Gastrointestinal Cancer Program
AdventHealth Cancer Institute*



Ahmed Zakari, MD

*Medical Director
Gastrointestinal Cancer Program
AdventHealth Cancer Institute*

AHCI offers the largest comprehensive colorectal cancer program in Florida. For patients with colon or rectal cancer, our program is in the top 2 percent of programs nationally by volume of patients treated annually. A number of dedicated colorectal surgeons provide the highest quality care at a range of campus sites under a single program ensuring a consistency of patient care, regardless of location. Faculty within the group are key national and international leaders within the field of colorectal surgery. They have developed novel technologies and surgical and other treatment options that are not available anywhere else within Florida. A unique and dedicated multi-disciplinary team of true specialists provide personalized care for patients on an individualized basis.

Our doctors have presented lectures and teaching courses around the United States as well as more than a dozen countries internationally in the last 12 months alone. They have also published a range of key research papers on the latest techniques in patient care that have received much publicity in the international media.

November 2017, we held the inaugural Orlando Colorectal Congress meeting over a 3-day period featuring didactic sessions with CME, international guest lecturers, as well as live surgery and cadaveric labs for demonstrating advanced techniques including robotic-assisted procedures and transanal total mesorectal excision (taTME). It was attended by 100 surgeons from around the world.

2017 HIGHLIGHTS

- Dr. John Monson was an invited speaker at the annual ASCRS in Seattle, Washington speaking on taTME vs. lapTME: Best Evidence & Trial Updates. He also delivered a keynote lecture at the annual ACS in San Diego, California titled Evaluating the Current Status of Rectal Cancer Care in the US: Where We Stand at the Start of the Commission on Cancer's National Accreditation Program for Rectal Cancer.
- Dr. Matthew Albert was a visiting professor at Al Hamad Hospital, Doha, Qatar delivering specific talks on TAMIS and The Evolution to Transanal TME. He also presented on the pitfalls and complications associated with performing TaTME at the Digestive Disease Week at the Jagelman Colorectal Congress; Fort Lauderdale, Florida. He also chaired the teaching course on TaTME at the IRCAD Course for Transanal and Laparoscopic Colorectal Surgery in Brazil. He was also an invited lecturer to the Chinese Congress Surgery; Beijing, China speaking on TAMIS and the Evolution to taTME.
- Dr. Teresa deBeche-Adams was a visiting professor at the Midwest Colorectal Society Annual Meeting in Big Sky, Montana delivering a keynote talk on TaTME. She also was involved in delivering hands-on teaching in robotics in both Germany and Italy.

Colorectal Oncology

2017 HIGHLIGHTS CONT.

- Dr. George Nassif continued his national and international expertise in Enhanced Recovery after Surgery programs giving lectures in Alabama, at ASCRS in Seattle and Chongqing in China.
- Dr. Justin Kelly gave instruction on the bi-monthly TaTME cadaveric program at the Nicholson Center at AdventHealth, educating numerous visiting surgeons on the details concerning TaTME.

Publications

Aquina CT, Blumberg N, Becerra AZ, Boscoe FP, Schymura MJ, Noyes K, **Monson JRT**, Fleming FJ. Association Among Blood Transfusion, Sepsis, and Decreased Long-term Survival After Colon Cancer Resection. *Ann Surg.* 2017 Aug;266(2):311-317. doi: 10.1097/SLA.0000000000001990. PubMed PMID: 27631770.

Aquina CT, Mohile SG, **Tejani MA**, Becerra AZ, Xu Z, Hensley BJ, Arsalani-Zadeh R, Boscoe FP, Schymura MJ, Noyes K, **Monson JR**, Fleming FJ. The impact of age on complications, survival, and cause of death following colon cancer surgery. *Br J Cancer.* 2017 Jan;116(3):389-397. doi: 10.1038/bjc.2016.421. Epub 2017 Jan 5. PubMed PMID: 28056465; PubMed Central PMCID: PMC5294480.

Atallah SB, DuBose AC, Burke JP, **Nassif G**, **deBeche-Adams T**, Frering T, **Albert MR**, **Monson JRT**. Uptake of Transanal Total Mesorectal Excision in North America: Initial Assessment of a Structured Training Program and the Experience of Delegate Surgeons. *Dis Colon Rectum.* 2017 Oct;60(10):1023-1031. doi: 10.1097/DCR.0000000000000823. PubMed PMID: 28891845.

Monson JRT, Arsalanizadeh R. Transanal Total Mesorectal Excision (TaTME) and Quality of Rectal Cancer Surgery: Do we Really Know? *Ann Surg.* 2017 Dec;266(6):e88-e89. doi: 10.1097/SLA.0000000000001736. PubMed PMID: 27070936.

Xu Z, Mohile SG, **Tejani MA**, Becerra AZ, Probst CP, Aquina CT, Hensley BJ, Arsalanizadeh R, Noyes K, **Monson JR**, Fleming FJ. Poor compliance with adjuvant chemotherapy use associated with poorer survival in patients with rectal cancer: An NCDB analysis. *Cancer.* 2017 Jan 1;123(1):52-61. doi: 10.1002/cncr.30261. Epub 2016 Aug 25. PubMed PMID: 27560162.

Xu Z, Berho ME, Becerra AZ, Aquina CT, Hensley BJ, Arsalanizadeh R, Noyes K, **Monson JRT**, Fleming FJ. Lymph node yield is an independent predictor of survival in rectal cancer regardless of receipt of neoadjuvant therapy. *J Clin Pathol.* 2017 Jul;70(7):584-592. doi: 10.1136/jclinpath-2016-203995. Epub 2016 Dec 8. PubMed PMID: 27932667.

Xu Z, Becerra AZ, Aquina CT, Hensley BJ, Justiniano CF, Boodry C, Swanger AA, Arsalanizadeh R, Noyes K, **Monson JR**, Fleming FJ. Emergent Colectomy Is Independently Associated with Decreased Long-Term Overall Survival in Colon Cancer Patients. *J Gastrointest Surg.* 2017 Mar;21(3):543-553. doi: 10.1007/s11605-017-3355-8. Epub 2017 Jan 12. PubMed PMID: 28083841.

González MG, Kelly KN, Dozier AM, Fleming F, **Monson JRT**, Becerra AZ, Aquina CT, Probst CP, Hensley BJ, Sevdalis N, Noyes K. Patient Perspectives on Transitions of Surgical Care: Examining the Complexities and Interdependencies of Care. *Qual Health Res.* 2017 Oct;27(12):1856-1869. doi:10.1177/1049732317704406. Epub 2017 May 10. PubMed PMID: 28936931.

Lee L, Edwards K, Hunter IA, Hartley JE, Atallah SB, **Albert MR**, Hill J, **Monson JR**. Quality of Local Excision for Rectal Neoplasms Using Transanal Endoscopic Microsurgery Versus Transanal Minimally Invasive Surgery: A Multi-institutional Matched Analysis. *Dis Colon Rectum.* 2017 Sep;60(9):928-935. doi:10.1097/DCR.0000000000000884. PubMed PMID: 28796731.

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Teaching taTME

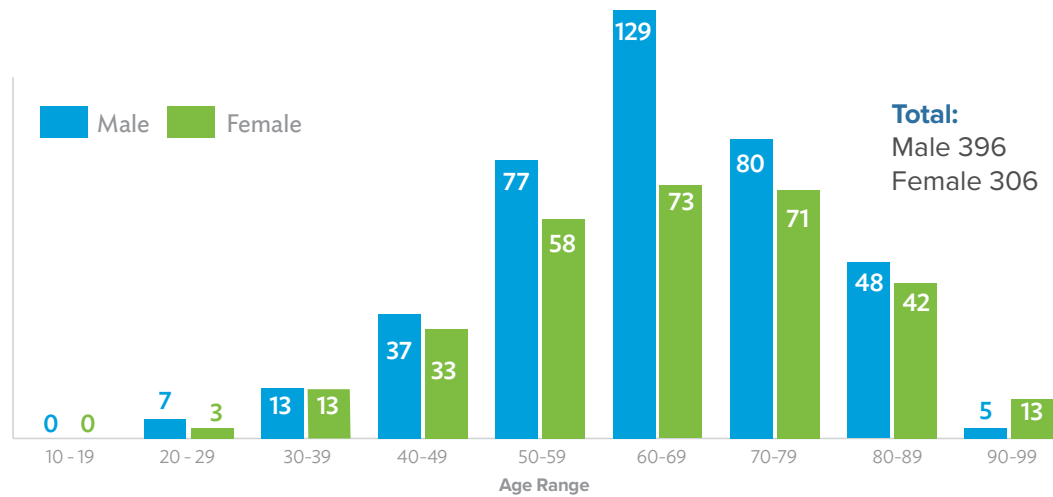
Transanal Total Mesorectal Excision (taTME) is a relatively new minimally invasive approach for rectal cancer surgery. To date, more than 100 surgeons from over 50 leading national and international centers have completed two-day training program led by surgeons in our group in the Nicholson Center at AdventHealth Orlando. The operative course trains experienced surgeons in live surgery and cadaveric and didactic sessions using taTME.

Colorectal Oncology

Colorectal Cancer Cases

AGE AT DIAGNOSIS BY GENDER

In 2017, male and female patients diagnosed at AHCI with colorectal cancer were most likely to be 60 to 69 years old, followed by ages 70 to 79.

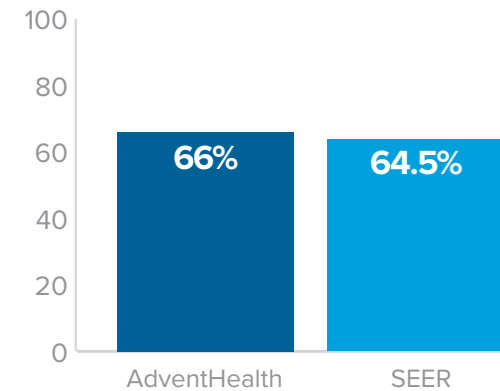


Source: AFHCI Cancer Registry

Colorectal Cancer Five-Year Survival

CASES DIAGNOSED 2008-2014

The five-year survival rate for colorectal cancer patients treated at AdventHealth compared favorably to national data.



AHCI Tri-County vs. SEER (SEER = Surveillance, Epidemiology and End-Results)

Source: AHCI Cancer Registry, SEER.gov CanQues

Colorectal Cancer Cases

STAGE AT DIAGNOSIS

Almost 26 percent of the 703 patients diagnosed with colon cancer at AHCI were in Stage III of the disease when it was found.

Site Name	Total Cases	%	Stage 0	%	Stage I	%	Stage II	%	Stage III	%	Stage IV	%	Unknown	%
Colon	486	69%	30	6%	67	14%	82	17%	124	26%	89	18%	94	19%
Rectosigmoid Junction	48	7%	0	0%	12	25%	9	19%	14	29%	6	13%	7	15%
Rectum	169	24%	8	5%	37	22%	26	15%	44	26%	17	10%	37	22%
Overall Totals	703	100%	38	5%	116	17%	117	17%	182	26%	112	16%	138	20%

Pancreatic, Liver and Hepatobiliary Oncology



Ahmed Zakari, MD

*Medical Director
Gastrointestinal Cancer Program
AdventHealth Cancer Institute*



Juan Pablo Arnoletti, MD, FACS

*Director of Surgical Oncology
Gastrointestinal Cancer Program
AdventHealth Cancer Institute*

AHCI offers a comprehensive array of treatments and therapies for pancreatic, liver and hepatobiliary cancers, including state of the art surgical and endoscopic techniques, complex liver and pancreatic resections, clinical trials as well as stereotactic body radiation and radioembolization therapy for large or multiple tumors. With the latest endoscopic, minimally invasive and 3-D technologies, the Pancreatic, Liver and Hepatobiliary Oncology Program produces more accurate early diagnoses and successfully treats a large patient population. We perform more pancreatic surgeries than any other medical center in Central Florida and offer a wide array of cancer therapies for digestive tumors. We are actively involved in translational research studies seeking novel therapies and better treatment for patients with pancreatic cancer.

Our Pancreatic, Liver and Hepatobiliary Oncology Program offers a wide range of multi-disciplinary specialists who provide clinical expertise and patient-centered care for the diagnosis and treatment of the entire spectrum of benign, pre-malignant and malignant HPB and digestive neoplasms. AHCI's comprehensive approach also helps patients manage the emotional, physical, and nutritional impact of cancer. AHCI is committed to education and treatment that improves the lives of our patients and their families.

Publications

Arnoletti JP, Zhu X, Almodovar AJ, Veldhuis PP, Sause R, Griffith E, Corpus G, Chang JC, Fanaian N, Litherland SA. Portal Venous Blood Circulation Supports Immunosuppressive Environment and Pancreatic Cancer Circulating Tumor Cell Activation. *Pancreas*. 2017 Jan;46(1):116-123. PubMed PMID: 27400259.

Atallah S, Mabardy A, Volpato AP, **Chin T**, Sneider J, **Monson JRT**. Surgery beyond the visible light spectrum: theoretical and applied methods for localization of the male urethra during transanal total mesorectal excision. *Tech Coloproctol*. 2017 Jun;21(6):413-424. doi: 10.1007/s10151-017-1641-9. Epub 2017 Jun 6. Review. PubMed PMID: 28589242.

Matar AJ, Files J, Burkholder R, **Chin T**, Angelis M. Evaluating living donor kidney transplant rates: Are you reaching your potential? *Clin Transplant*. 2017 Apr;31(4). doi: 10.1111/ctr.12914. Epub 2017 Mar 1. PubMed PMID: 28135781.

Active Research Grants

SA Litherland, **JP Arnoletti**, A Khaled. Novel Actin Polymerization Inhibitor Test in Pancreatic Cancer Mixed Cell Reaction Culture System; to test the effects of actin polymerization inhibition on pancreatic cancer CTC proliferation and apoptosis in MCR Culture System; Phi Beta Psi; November 2016-November 2017.

SA Litherland, **JP Arnoletti**, Xainlin Han. Identification of altered lipids for early diagnosis of pancreatic cancer; to identify and characterize the Lipidomics profile unique to pancreatic cancer to find potential therapeutic targets and biomarker signatures for malignancy and tumor staging; Florida Hospital Foundation; September 2016-August 2017.

Pancreatic, Liver and Hepatobiliary Oncology

Abstracts

Portales F, Philip PA, Hammel P, Buscaglia M, Pazo-Cid R, Mozo JLM, Kim ES, Dowden S, **Zakari A**, Borg C, Terrebonne E, Herrero FR, Li JSS, Ong TJ, Nydam T, Lacy J. Interim health related quality of life (QoL) from LAPACT, a Phase 2 trial of nab-paclitaxel (nab-P) plus gemcitabine (G) for patients (Pts) with locally advanced pancreatic cancer (LAPC). Conference: 42nd European-Society-for-Medical-Oncology Congress (ESMO). Date SEP 08-12, 2017, Madrid, SPAIN. Annals of Oncology 28(Supplement 5). Meeting Abstract 730P, Published Sep 2017.

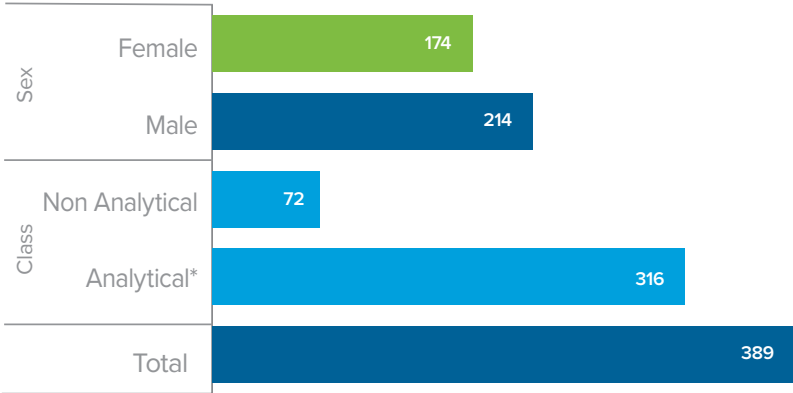
Philip PA, Lacy J, Portales, F, Sobrero A, Pazo-Cid R, Mozo JLM, Kim ES, Dowden S, **Zakari A**, Borg C, Terrebonne E, Herrero FR, Li JSS, Ong TJ, Nydam T, Hammel P. nab-Paclitaxel (nab-P) plus gemcitabine (G) for patients (Pts) with locally advanced pancreatic cancer (LAPC): Interim efficacy and safety results from the Phase 2 LAPACT Trial. Conference: 42nd European Society for Medical Oncology Congress (ESMO) Conference Date SEP 08-12, 2017, Madrid, SPAIN. Annals of Oncology, Meeting Abstract 622PD Vol. 28, Supplement 5, Published: Sep 2017.

Matar A, Files J, Burkholder R, **Chin T**, Angelis M. Evaluating Living Donor Kidney Transplant Rates: Are You Reaching Your Potential? ASTS 17th Annual State of the Art Water Symposium, Miami Beach, FL Date: JAN 26-29, 2017. Amer Soc Transplant Surg; Novartis Pharmaceut Corp; Astellas; Sanofi Genzyme. American Journal of Transplantation Vol. 17 Special Issue SI, Supplement 2(41-42). Meeting Abstract: P-35, Published JAN 2017.

Pancreatic Cancer Cases

CASES DIAGNOSED BY CLASS AND GENDER

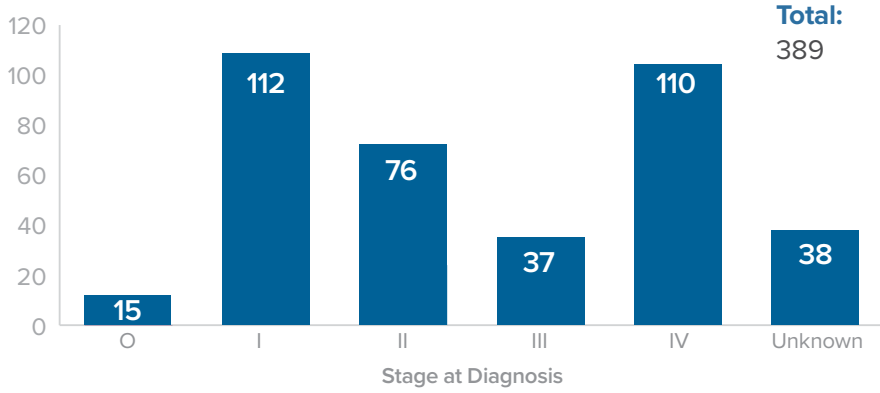
Male patients made up to 55 percent of the 389 cases of pancreatic cancer diagnosed in 2017 at AHCI.



Pancreatic Cancer Cases

AJCC STAGE AT DIAGNOSIS

Nearly 29 percent of the pancreatic cancer patients were diagnosed in stage I while almost as many were in stage IV at diagnosis.



Source: AHCI Cancer Registry

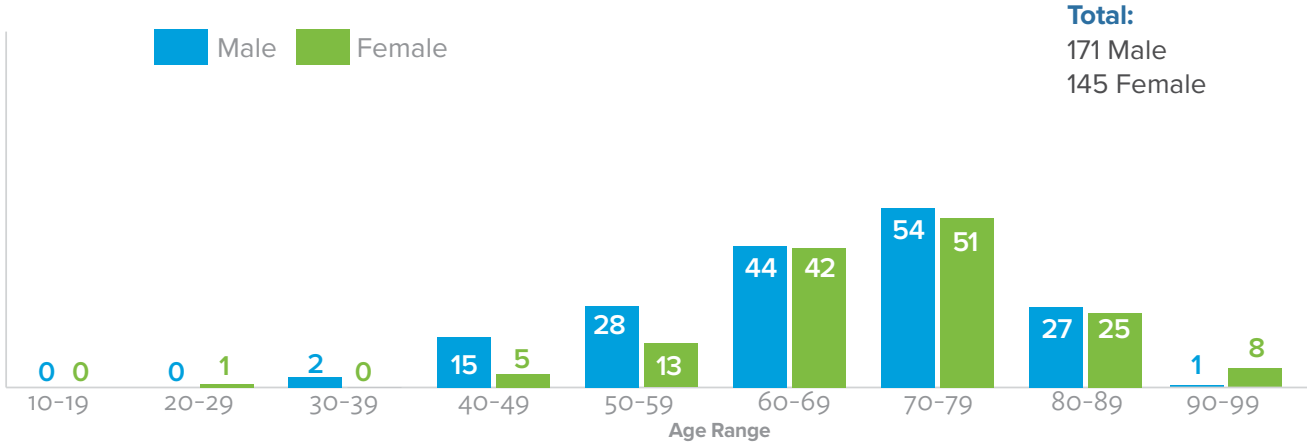
* Analytical patients have some or all of their first course of treatment at one or more of our AH Central Region - South facilities
Source: AHCI Cancer Registry

Pancreatic, Liver and Hepatobiliary Oncology

Pancreatic Cancer Cases

AGE AT DIAGNOSIS BY GENDER

14 percent of men and 13 percent of women were from 70 to 79 years old at diagnosis, while 11 percent of both men and women were ages 60 to 69.



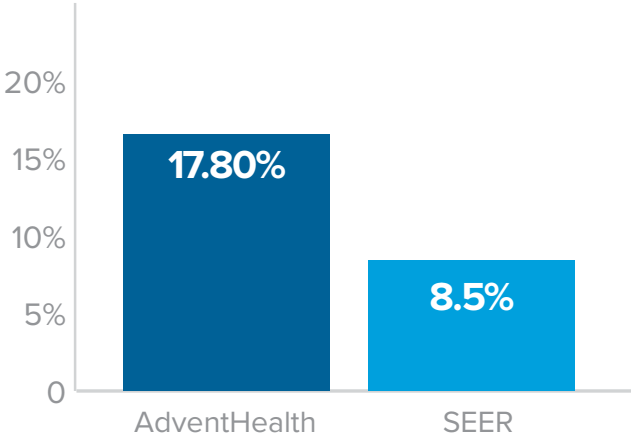
Source: AHCI Cancer Registry

Pancreatic Cancer Cases

FIVE-YEAR SURVIVAL

Cases Diagnosed 2008-2014

Pancreatic five-year survival rates at AHCI were more than double those of national averages.



AHCI Tri-County vs. SEER (SEER = Surveillance, Epidemiology and End-Results)
Sources: AHCI Cancer Registry; SEER.gov CanQues

Gynecologic Oncology



Robert W. Holloway, MD, DHc, FACOG, FACS

*Medical Director
Gynecologic Oncology Program
AdventHealth Cancer Institute*



James E. Kendrick, MD, FACOG

*Director of Clinical Operations
Gynecologic Oncology Program
AdventHealth Cancer Institute*



Nathalie D. McKenzie, MD, MSPH, FASCO

*Program Director
Gynecologic Oncology Fellowship
AdventHealth Cancer Institute*



Sarfraz Ahmad, PhD, FAACC, FABAP

*Director of Clinical Research
Gynecologic Oncology
AdventHealth Cancer Institute*

The AdventHealth Gynecologic Oncology Program at AHCI is internationally recognized for excellence in clinical research, innovation in robotic surgery and treatment, and novel collaborative laboratory investigations of translational research. Surgeons from around the world have attended AdventHealth's advanced robotic training courses and physician observations. The Gynecologic Oncology Program's seminal research publications, which focus on robotic surgery outcomes, are widely quoted in peer-reviewed scholarly literature. Patients have access to the most advanced oncologic therapies because of affiliations with the National Cancer Institute's Gynecologic Oncology Group (GOG) / NRG* Oncology, several university research centers and industry-sponsored research consortiums that also change the treatment paradigms in gynecologic oncology.

Note: NRG Oncology brings together the unique and complementary research areas of the National Surgical Adjuvant Breast and Bowel Project (NSABP), the Radiation Therapy Oncology Group (RTOG), and the Gynecologic Oncology Group (GOG).

2017 HIGHLIGHTS

- AdventHealth has been ranked within the top 15 hospitals in the nation by the U.S. News & World Report for Gynecology during the past few years.
- Dr. Nathalie D. McKenzie joined the Gynecology Oncology Program as Attending Surgeon in June, and became Program Director of Gynecologic Oncology Fellowship in August.
- Data monitoring, analyses and final peer-reviewed publication was accomplished the[u2] FDA Investigational Device Exemption study "Detection of Sentinel Lymph Nodes in Patients with Endometrial Cancer Undergoing Robotic-Assisted Staging: Comparison of Isosulfan Blue and Indocyanine Green Dyes with Fluorescence Imaging" (Drs. Holloway, Ahmad, Kendrick).
- AdventHealth Gynecologic Oncology Program initiated the Accreditation Council for Graduate Medical Education (ACGME) transition process, Fellowship Program expansion (with laboratory experience and dedicated research year and Wellness program).



Gynecologic Oncology

2017 HIGHLIGHTS CONT.

- Drs. Ahmad, Holloway, Kendrick and McKenzie served as reviewers for several peer-reviewed, national/international scientific journals (e.g., Gynecologic Oncology, British Journal of Cancer, International Journal of Gynecological Cancer, American Journal OB/GYN, Archives of Obstetrics and Gynecology, Journal of Robotic Surgery, Journal of American College of Surgery, Surgical Endoscopy, Indian Journal of Experimental Biology, Clinical & Translational Oncology, Critical Reviews in Oncology/Hematology, F1000Research, Cureus, Medicine, etc.).

Publications

Coleman RL, Oza AM, Lorusso D, Aghajanian C, Oaknin A, Dean A, Colombo N, Weberpals JI, Clamp A, Scambia G, Leary A, **Holloway RW**, Gancedo MA, Fong PC, Goh JC, O'Malley DM, Armstrong DK, Garcia-Donas J, Swisher EM, Floquet A, Konecny GE, McNeish IA, Scott CL, Cameron T, Maloney L, Isaacson J, Goble S, Grace C, Harding TC, Raponi M, Sun J, Lin KK, Giordano H, Ledermann JA; ARIEL3 investigators. Rucaparib maintenance treatment for recurrent ovarian carcinoma after response to platinum therapy (ARIEL3): a randomised, double-blind, placebo-controlled, phase 3 trial. *Lancet*. 2017 Oct 28;390(10106):1949-1961. doi: 10.1016/S0140-6736(17)32440-6. Epub 2017 Sep 12. Erratum in: *Lancet*. 2017 Oct 28;390(10106):1948. PubMed PMID: 28916367; PubMed Central PMCID: PMC5901715.

Holloway RW, Ahmad S, Kendrick JE, Bigsby GE, Brudie LA, Ghurani GB, Stavitzki NM, Gise JL, Ingersoll SB, Pepe JW. A Prospective Cohort Study Comparing Colorimetric and Fluorescent Imaging for Sentinel Lymph Node Mapping in Endometrial Cancer. *Ann Surg Oncol*. 2017 Jul;24(7):1972-1979. doi: 10.1245/s10434-017-5825-3. Epub 2017 Mar 6. PubMed PMID: 28265777.

Holloway RW, Abu-Rustum NR, Backes FJ, Boggess JF, Gotlieb WH, Jeffrey Lowery W, Rossi EC, Tanner EJ, Wolsky RJ. Sentinel lymph node mapping and staging in endometrial cancer: A Society of Gynecologic Oncology literature review with consensus recommendations. *Gynecol Oncol*. 2017 Aug;146(2):405-415. doi: 10.1016/j.ygyno.2017.05.027. Epub 2017 May 28. Review. PubMed PMID: 28566221; PubMed Central PMCID: PMC6075736.

Wisner KPA, **Ahmad S, Holloway RW**. Indications and techniques for robotic pelvic and para-aortic lymphadenectomy with sentinel lymph node mapping in gynecologic oncology. *Best Pract Res Clin Obstet Gynaecol*. 2017 Nov;45:83-93. doi: 10.1016/j.bpobgyn.2017.04.006. Epub 2017 Apr 24. Review. PubMed PMID: 28533155.

McCourt CK, Deng W, Dizon DS, Lankes HA, Birrer MJ, Lomme MM, Powell MA, **Kendrick JE**, Saltzman JN, Warshal D, Tenney ME, Kushner DM, Aghajanian C. A phase II evaluation of ixabepilone in the treatment of recurrent/persistent carcinosarcoma of the uterus, an NRG Oncology/Gynecologic Oncology Group study. *Gynecol Oncol*. 2017 Jan;144(1):101-106. doi: 10.1016/j.ygyno.2016.10.026. Epub 2016 Oct 28. PubMed PMID: 28029447; PubMed Central PMCID: PMC5362250.

Holloway RW, Ahmad S, Kendrick JE, Bigsby GE, Brudie LA, Ghurani GB, Stavitzki NM, Gise JL, Ingersoll SB, Pepe JW. A Prospective Cohort Study Comparing Colorimetric and Fluorescent Imaging for Sentinel Lymph Node Mapping in Endometrial Cancer. *Ann Surg Oncol*. 2017 Jul;24(7):1972-1979. doi: 10.1245/s10434-017-5825-3. Epub 2017 Mar 6. PubMed PMID: 28265777.

Wisner KPA, **Ahmad S, Holloway RW**. Indications and techniques for robotic pelvic and para-aortic lymphadenectomy with sentinel lymph node mapping in gynecologic oncology. *Best Pract Res Clin Obstet Gynaecol*. 2017 Nov;45:83-93. doi: 10.1016/j.bpobgyn.2017.04.006. Epub 2017 Apr 24. Review. PubMed PMID: 28533155.

Kurt G, Loerzel VW, Hines RB, Tavasci K, Galura S, **Ahmad S, Holloway RW**. Learning Needs of Women Who Undergo Robotic Versus Open Gynecologic Surgery. *J Obstet Gynecol Neonatal Nurs*. 2018 Jul;47(4):490-497. doi: 10.1016/j.jogn.2018.04.133. Epub 2018 May 8. PubMed PMID: 29750905.

Gubbi A, Kacheria S, Ahmad S, Stavitzki NM, **Kendrick JE**. Prognostic Significance of the Standardized Uptake Value of Pretherapeutic 18F-Labeled 2-Fluoro-2-Deoxyglucose Positron Emission Tomography/Computed Tomography in Patients with Locally Advanced Cervical Cancer. *Int J Gynecol Cancer*. 2017 Mar;27(3):530-536. doi: 10.1097/IGC.0000000000000930. PubMed PMID: 28187100.

Gynecologic Oncology

International Articles

Basha R, Mohiuddin Z, Rahim A, **Ahmad S**. Ovarian cancer and resistance to therapies: Clinical and laboratory perspectives. Drug Resistance in Bacteria, Fungi, Malaria, and Cancer (Arora G, Sajid A, Kalia VC, Eds.), Springer International Publishing, Switzerland, 2017; pp. 511-537 [ISBN 978-3-319-48683-3].

Rauf A, Ali S, Khan MT, Rahman AU, **Ahmad S**. The expanding role of Sp1 in pancreatic cancer: Tumorigenic and clinical perspectives. Role of Transcription Factors in Gastrointestinal Malignancies (Nagaraju GP, Bramhachari PV, Eds.), Springer Nature Singapore Pte. Ltd., 2017; pp. 391-402 [ISBN 978-981-10-6728-0].

Research Abstracts

Clamp A, McNeish I, Dean A, Gallardo D, Weon-Kim J, O'Donnell D, Hook J, Coyle C, Blagden S, Brenton J, Naik R, Perren T, Sundar S, Cook A, James E, Swart A, Stenning S, Kaplan R, Ledermann J. ICON8: A GCIG phase III randomized trial evaluating weekly dose-dense chemotherapy integration in first-line epithelial ovarian/fallopian tube/primary peritoneal carcinoma (EOC) treatment: Results of primary progression-free survival (PFS) analysis. Oral presentation, European Society of Medical Oncology (ESMO) Congress, Sept. 8-12, 2017, Madrid; Abstr. # 9290-PR.

Ferrandina G, Braly PS, Terranova C, Salutari V, Ricci C, Raspagliesi F, Lorusso D, Benedetti Panici P, Scollo P, Plotti F, Brewer M, Method MW, **Holloway RW**, Madiyalakan M, Nicodemus CF, Pecorelli SL, Scambia G, Angioli R. A randomized phase II study assessing an optimized schedule of oregovomab (O) anti-CA125 vaccination with carboplatin paclitaxel (CP) relative to CP alone in front-line treatment of optimally cytoreduced stage III/IV ovarian cancer (EOC). Poster presentation, American Society of Clinical Oncology (ASCO) Annual Meeting, June 2-5, 2017, Chicago; Abstr. # 5536.

Wisner KPA, **Ahmad S**, Singh C, Gise JL, Pattanaik S, Gupta S, Stephens AJ, Pernicone PC, **Kendrick JE, Holloway RW**. Evaluation of sentinel lymph node isolated tumor cells in endometrial cancer. Poster presentation, Conference of the American College of Osteopathic Obstetricians & Gynecologists (ACOOG), March 26-31, 2017, Palm Desert, Calif. (won 1st prize in poster competition).

Gennette S, Maksem J, Scheuneman T, Ossin David, Frierson E, **McKenzie ND**, Schimp VL, Bryant C. Endometrial cancer patients with a MELF gland pattern treated with hysterectomy only are at an increased risk of lymph node involvement. Poster presentation, Annual Meeting of SGO, March 12-15, 2017, National Harbor, Md., Abstr. 259.

Gupta S, Wisner KPA, Stephens AJ, **Ahmad S**, Gise JL, Brudie LA, **Kendrick JE, Holloway RW**. Robotic-assisted laparoscopic hysterectomy and para-aortic lymphadenectomy following chemoradiation for stage IB-2 cervical cancer. Oral presentation, Society of Robotic Surgery (SRS) Annual Meeting, Feb. 24-26, 2017, Miami.

Invited Lectures and Training Programs

Invited Speaker at the XIII Brazilian Congress of Surgical Oncology, Rio de Janeiro, Brazil, Oct. 25, 2017 – **Dr. Holloway**.

Invited Speaker at the Gynecologic Grand Rounds at Xijing Military Hospital of the Fourth Medical University, Xian, China with Professor Biliang Chen, Oct. 15, 2017 – **Dr. Holloway**.

Invited Keynote Speaker at First Annual Meeting of the Hunan Provence Society of Gynecologic Oncology and Minimally Invasive Surgery, Changsha, China, Professor Min Xue, president. Live surgery performed at Third Xiangya Hospital of Central University, Oct. 13-14, 2017 – **Dr. Holloway**.

Invited Keynote Speaker, 2017 Sino-European Summit of Gynecologic Endoscopy (SESGE), Beijing, and Sun Yat-Sen University Cancer Center, Guangzhou, China, June 14-18, 2017 – **Dr. Holloway**.

Director and Speakers, 1st Annual East Meets West: Advances in Gynecologic Robotic Surgery - A Gynecologic Oncology Symposium; Orlando and Celebration, Fla., March 16-17, 2017 – **Drs. Holloway, Kendrick, McKenzie**.

Awards

Dr. Sarfraz Ahmad, Clinical Chemist Recognition Award, American Association for Clinical Chemistry (AACC), Washington, D.C.

Dr. Sarfraz Ahmad, Fellow of the Academy of AACC (FAACC), Washington, D.C.

Gynecologic Oncology

Cervical Cancer Cases

EXTENT OF DISEASE AT DIAGNOSIS, BREAKDOWN BY SEER* SUMMARY STAGE

*The Surveillance, Epidemiology, and End-Results (SEER) Program of the National Cancer Institute (NCI) is an authoritative source of information on cancer incidence and survival in the United States. It is the only comprehensive source of population-based information in the United States that includes stage of cancer at the time of diagnosis and patient survival data.

Survival by Stage		
LOCALIZED	REGIONAL	DISTANT
91.7%	56%	17.2%
90%	59%	21%

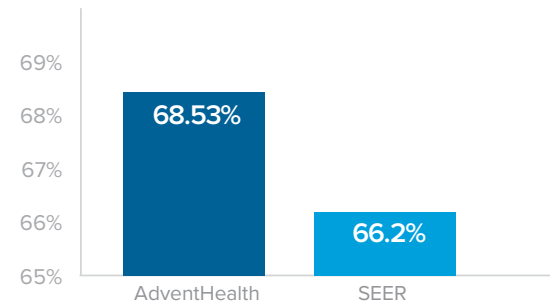
AHCI Tri-County vs. SEER (SEER = Surveillance, Epidemiology and End-Results)
 Source: AHCI Cancer Registry, SEER.gov CanQues

Cervical Cancer Cases

FIVE-YEAR SURVIVAL

Cases Diagnosed 2008-2014

The five-year survival rate for cervical cancer patients treated at AdventHealth compared favorably to national data.



AHCI Tri-County vs. SEER (SEER = Surveillance, Epidemiology and End-Results)
 Source: AHCI Cancer Registry, SEER.gov CanQues

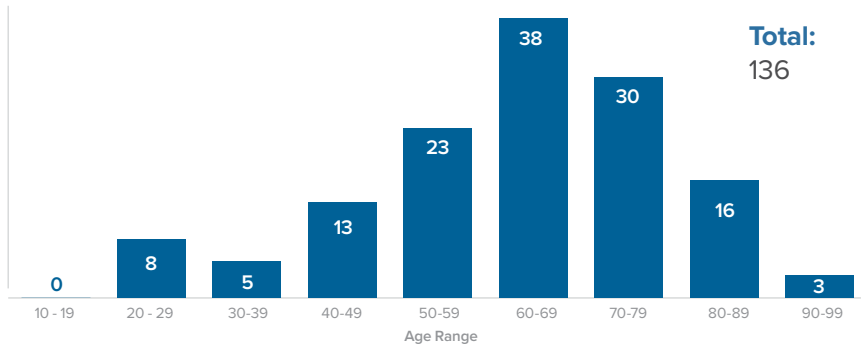


Gynecologic Oncology

Ovarian Cancer Cases

AGE AT DIAGNOSIS

The most common age of diagnosis for ovarian cancer patients at AHCI in 2017 was 60 to 69, followed closely by ages 70 to 79.

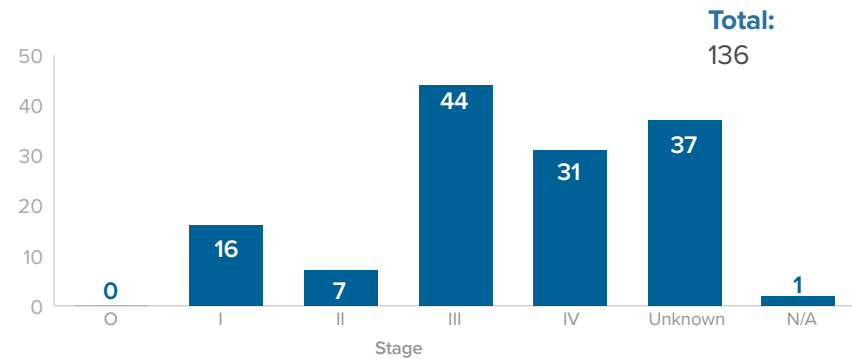


Source: AHCI Cancer Registry

Ovarian Cancer Cases

STAGE AT DIAGNOSIS

In 2017, 82 percent of patients diagnosed with ovarian cancer at AHCI were in Stage III or later.



Source: AHCI Cancer Registry

Ovarian Cancer Cases

EXTENT OF DISEASE AT DIAGNOSIS

Breakdown by SEER Summary Stage

Survival by Stage		
LOCALIZED	REGIONAL	DISTANT
92.3%	74.5%	29.2%
90%	69%	44%

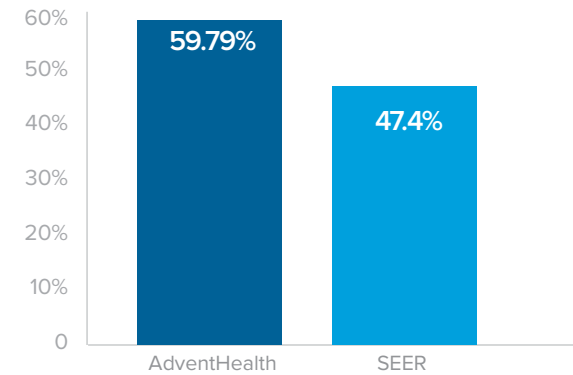
AHCI Tri-County vs. SEER (SEER = Surveillance, Epidemiology and End-Results)
Source: AHCI Cancer Registry, SEER.gov CanQues

Ovarian Cancer Cases

FIVE-YEAR SURVIVAL

Cases Diagnosed 2008-2014

The five-year survival rate for ovarian cancer patients treated at AHCI compared favorably to national data.



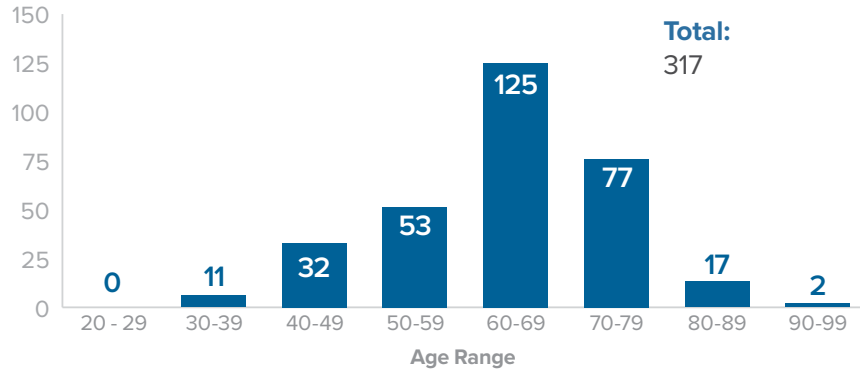
AHCI Tri-County vs. SEER (SEER = Surveillance, Epidemiology and End-Results)
Source: AHCI Cancer Registry, SEER.gov CanQues

Gynecologic Oncology

Uterine Cancer Cases

AGE AT DIAGNOSIS

More than 39 percent of patients diagnosed with uterine cancer at AHCI in 2017 were ages 60 to 69.

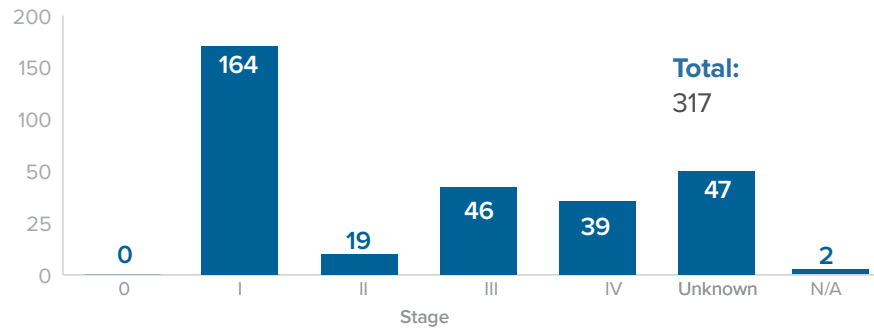


Source: AHCI Cancer Registry

Uterine Cancer Cases

STAGE AT DIAGNOSIS

Almost 52 percent of uterine cancer patients at AHCI were diagnosed with stage I disease.



Source: AHCI Cancer Registry

Uterine Cancer Cases

EXTENT OF DISEASE AT DIAGNOSIS

Breakdown by SEER Summary Stage

Survival by Stage		
LOCALIZED	REGIONAL	DISTANT
94.9%	68.6%	16.3%
91%	72%	24%

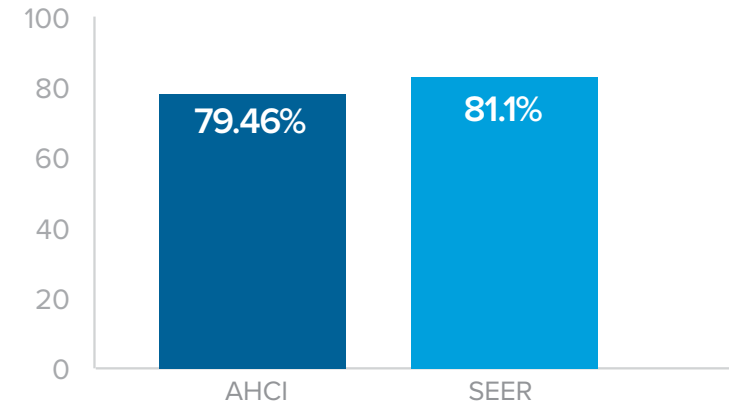
AHCI Tri-County vs. SEER (SEER = Surveillance, Epidemiology and End-Results) Source: AHCI Cancer Registry, SEER.gov CanQues

Uterine Cancer Cases

FIVE-YEAR SURVIVAL

Cases Diagnosed 2008-2014

The five-year survival rate for uterine cancer patients treated at AHCI compared to national data.



AHCI Tri-County vs. SEER (SEER = Surveillance, Epidemiology and End-Results) Source: AHCI Cancer Registry, SEER.gov CanQues

Gynecologic Oncology

Gynecologic* Cancer Cases

EXTENT OF DISEASE AT DIAGNOSIS

Breakdown by SEER Summary Stage

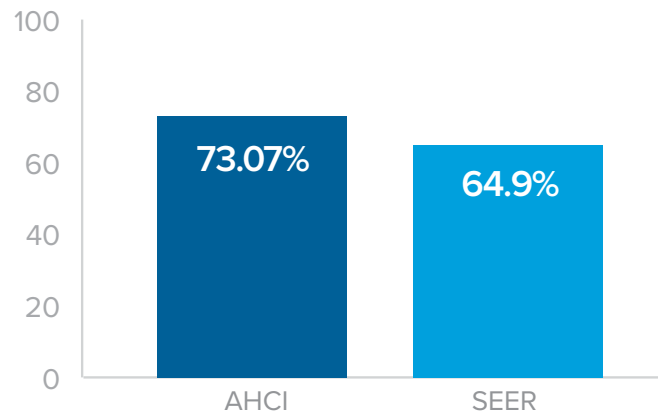
Survival by Stage		
LOCALIZED	REGIONAL	DISTANT
92.97%	64.43%	20.9%
91%	69%	36%

Gynecologic* Cancer Cases

FIVE-YEAR SURVIVAL

Cases Diagnosed 2008-2014

The five-year survival rate for gynecologic cancer patients treated at AHCI compared favorably to national data.



*GYNECOLOGIC = CERVICAL, UTERINE & OVARIAN

AHCI Tri-County vs. SEER (SEER = Surveillance, Epidemiology and End-Results)
Source: AHCI Cancer Registry, SEER.gov CanQuEs



Gynecologic Oncology

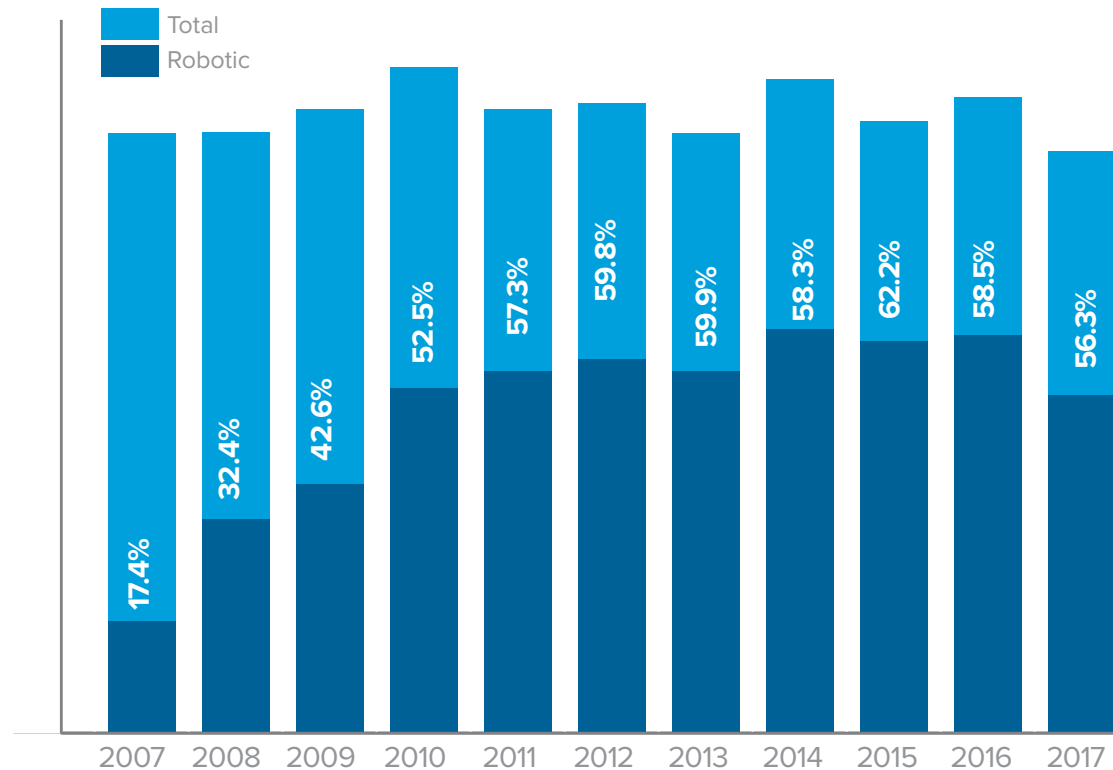
Gynecologic Cancer Surgeries

ROBOTIC PROCEDURES VS. TOTAL PROCEDURES

Cases diagnosed 2007-2017

Robotic surgeries continued to represent the greatest number of surgical procedures used to treat patients with gynecologic cancer at AHCI, with nearly 56 percent of cases in 2017.

Major Surgical Cases (2007 - 2017)



Head and Neck Oncology



Henry Ho, MD
Co-Director
Head and Neck Cancer Program
AdventHealth Cancer Institute



J. Scott Magnuson, MD, FACS
Co-Director
Head and Neck Cancer Program
AdventHealth Cancer Institute

The AHCI Head and Neck Cancer Program treats more cancer cases than any other Florida care center. Our multidisciplinary approach with a team of physicians, nurses, speech language pathologists, dieticians and social workers ensures that patients receive leading-edge, evidenced-based care. Our team offers a complete array of advanced therapeutic options that include robotic-assisted surgery, microvascular reconstruction, and minimally invasive skull base surgery, as well as chemoradiation, immunotherapy and clinical trials. As a leader with a visionary approach to cancer care, the Head and Neck Cancer Program consistently strives to improve patient care and treatment outcomes.

2017 HIGHLIGHTS

- In 2017, support was provided for 543 cancer patients through the various components of our program, including care coordination, education, tumor board presentation, and our head and neck cancer support group.
- Dr. Magnuson was the first physician in the world to use the da Vinci® SP™ Surgical System device. The trial called A Prospective, Multicenter Investigation of the da Vinci® SP™ Surgical System in TORS Procedures for Resection of Malignant Tumors was opened with Dr. Magnuson as Principal Investigator. The study objective was to evaluate and confirm the safety and clinical performance of the da Vinci® SP™ Surgical System, Instruments, and Accessories in transoral robotic surgery procedures for malignant oropharyngeal tumors classified as T1 and T2. Enrollment was completed in 2017.



Head and Neck Oncology

Publications

Keller A, **Harvey ME**, Kameh DS, **Haughey B**, **Ho H**, **Magnuson S**, **Akhtar A**, **Mekhail T**, Zehngebot L, Rao NG. De-escalation of radiotherapy for the treatment of HPV-associated head and neck cancer: A case report and a word of caution. *Acta Otolaryngologica case reports*. 2017 2(10): 29-33. doi: 10.1080/23772484.2017.1292399.

Patel UA, Hernandez D, Shnayder Y, Wax MK, Hanasono MM, Hornig J, Ghanem TA, Old M, Jackson RS, Ledgerwood LG, Pipkorn P, Lin L, Ong A, Greene JB, **Bekeny J**, Yiu Y, Noureldine S, Li DX, Fontanarosa J, Greenbaum E, Richmon JD. Free Flap Reconstruction Monitoring Techniques and Frequency in the Era of Restricted Resident Work Hours. *JAMA Otolaryngol Head Neck Surg*. 2017 Aug 1;143(8):803-809. doi: 10.1001/jamaoto.2017.0304. PubMed PMID: 28570718; PubMed Central PMCID: PMC5710561.

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Kligerman MP, Song Y, Schoppy D, Divi V, Megwalu UC, **Haughey BH**, Sirjani D. Retrograde Parotidectomy and facial nerve outcomes: A case series of 44 patients. *Am J Otolaryngol*. 2017 Sep - Oct;38(5):533-536. doi: 10.1016/j.amjoto.2017.05.003. Epub 2017 May 5. PubMed PMID: 28647300.

Zenga J, **Haughey BH**, Jackson RS, Adkins DR, Aranake-Chrisinger J, Bhatt N, Gay HA, Kallogjeri D, Martin EJ, Moore EJ, Paniello RC, Rich JT, Thorstad WL, Nussenbaum B. Outcomes of surgically treated human papillomavirus-related oropharyngeal squamous cell carcinoma with N3 disease. *Laryngoscope*. 2017 Sep;127(9):2033-2037. doi: 10.1002/lary.26455. Epub 2016 Dec 23. PubMed PMID: 28008626.

Uppaluri R, Winkler AE, Lin T, Law JH, **Haughey BH**, Nussenbaum B, Paniello RC, Rich JT, Diaz JA, Michel LP, Wildes T, Dunn GP, Zolkind P, Kallogjeri D, Piccirillo JF, Dehdashti F, Siegel BA, Chernock RD, Lewis JS Jr, Adkins DR. Biomarker and Tumor Responses of Oral Cavity Squamous Cell Carcinoma to Trametinib: A Phase II Neoadjuvant Window-of-Opportunity Clinical Trial. *Clin Cancer Res*. 2017 May 1;23(9):2186-2194. doi: 10.1158/1078-0432.CCR-16-1469. Epub 2016 Nov 9. PubMed PMID: 28151720; PubMed Central PMCID: PMC5509449.

Jackson RS, Sinha P, Zenga J, Kallogjeri D, Suko J, Martin E, Moore EJ, **Haughey BH**. Transoral Resection of Human Papillomavirus (HPV)-Positive Squamous Cell Carcinoma of the Oropharynx: Outcomes with and Without Adjuvant Therapy. *Ann Surg Oncol*. 2017 Nov;24(12):3494-3501. doi: 10.1245/s10434-017-6041-x. Epub 2017 Aug 14. Erratum in: *Ann Surg Oncol*. 2017 Aug 28; PubMed PMID: 28808988.

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Book Chapters

Sinha P, **Haughey BH**. Cancer of the Head and Neck, Chapter 16, Cancer of the Hypopharynx and Cervical Esophagus, 5th Edition, Wolters Kluwer, 2017.

Presentations

Dr. J. Scott Magnuson: Speaker, TORS for Parapharyngeal Space Tumors, Mayo Clinic 10th Annual Multidisciplinary Transoral Surgery for Head and Neck Cancer, Scottsdale, Arizona; Feb. 23, 2017.

Dr. Henry Ho: Stump the Professors Panel and Meet the Professor Break-Out Session, Best of ASCO 2017 Annual Meeting, Florida Hospital Cancer Institute, Hyatt Regency Grand Cypress, Orlando; June 24, 2017.

Dr. Henry Ho: New Guidelines for the Evaluation of the Neck Mass and Head and Neck Cancer Overview, Dental Society of Greater Orlando, Winter Park Civic Center, Winter Park, Florida; Oct. 23, 2017.

Dr. J. Scott Magnuson: Keynote Speaker, Hemostatic Options for Transoral Robotic Surgery of the Pharynx and Base of Tongue; Keynote Speaker, TORS for OSA: More Experience, More Evidence; 7th International Robotic Surgery Symposium, Seoul, South Korea; Oct. 29, 2017.

Dr. J. Scott Magnuson: Guest of Honor and Keynote Speaker, Current Status of Robotic Head & Neck Surgery, 2017 Robotic Surgeons Council of India, Goa, India; Nov. 18, 2017.

Dr. J. Scott Magnuson: Speaker, Controversy: Prevention and Management of Post-Operative Hemorrhage: What is the Role of Prophylactic External Carotid Artery Ligation During Neck Dissection? International Guild of Robotic & Endoscopic Head and Neck Surgery (IGReHNS), Lausanne, Switzerland; Dec. 1, 2017.

Dr. Henry Ho: New Guidelines for the Evaluation of the Neck Mass and Head and Neck Cancer Overview, General Surgery Residency, Florida Hospital, Orlando; Dec. 8, 2017.

Head and Neck Oncology

Head and Neck Cancer Cases

SITE BY GENDER

At AHCI, 543 cases of head and neck cancers were diagnosed in 2017. The most frequent cancer for both men and women was thyroid, with 71 percent of the cases diagnosed in women.

Site	Male	Female	Total
Thyroid Gland	64	151	215
Tonsil	50	3	53
Base of Tongue	46	6	52
Larynx	36	7	43
Other Parts of Tongue	26	6	32
Skin	20	11	31
Parotid Gland	10	7	17
Lymph Nodes	9	5	14
Floor of Mouth	5	2	11
Oropharynx	9	2	11
Other/Unspecified Parts Of Mouth	7	3	10
Other Oral Cavity	6	3	9
Nasopharynx	3	3	6
Lip	3	2	5
Hypopharynx	4	0	4
Nasal Cavity & Middle Ear	0	4	4
Gum	1	1	2
Palate	2	1	3
Connective Subcutaneous Other Soft Tissue	3	0	3
Other Salivary Glands	2	0	2
Accessory Sinuses	1	1	2
Pyiform Sinus	1	0	1
Trachea	0	0	0

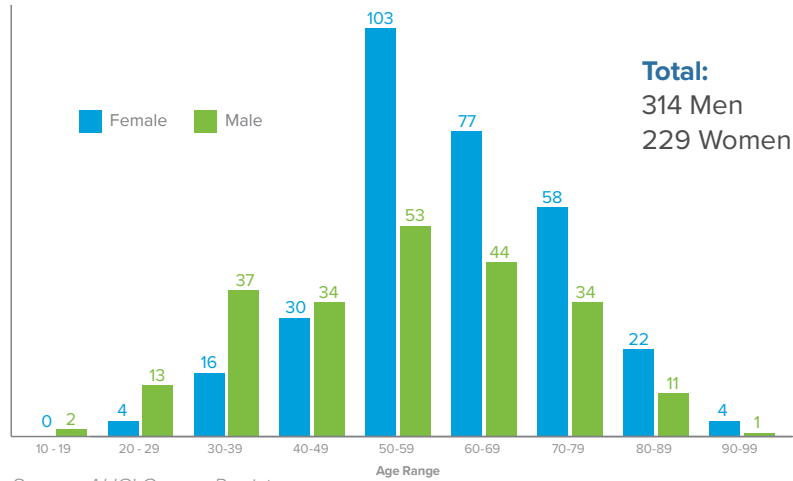
*Gender Unknown in one case. | Source: AHCI Cancer Registry

Head and Neck Oncology

Head and Neck Cancer Cases

AGE BY GENDER AT DIAGNOSIS

51 percent of patients with head and neck cancers in 2017 were from 50 to 69 years old at diagnosis. More than 30 percent of men diagnosed were in the 50-59 age range.



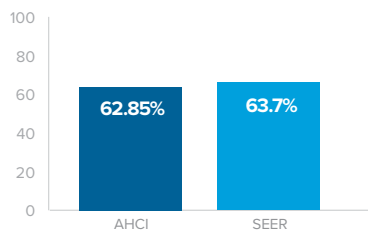
Source: AHCI Cancer Registry

Head and Neck Cancers

FIVE-YEAR SURVIVAL

Cases Diagnosed 2008-2014

The five-year survival rate for head and neck cancer patients treated at AdventHealth compared to national data.

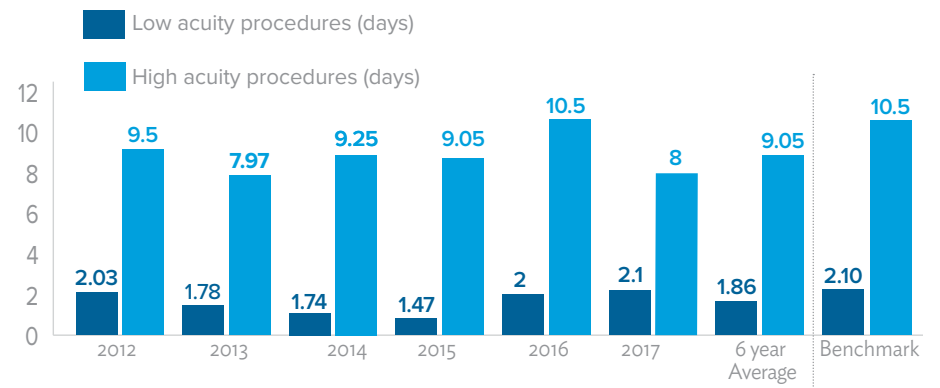


Head and neck cancers include oral, cavity, pharynx and larynx.
AHCI Tri-County vs. SEER (SEER = Surveillance, Epidemiology and End-Results)
Source: AHCI Cancer Registry, SEER.gov CanQues

Head and Neck Quality Metrics Report

LENGTH OF STAY

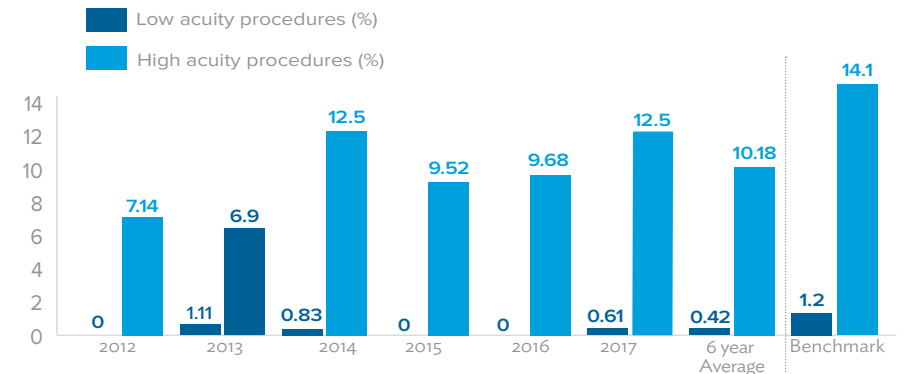
Cases Diagnosed 2012-2017



Source: AdventHealth Head and Neck Oncology Database

Head and Neck Quality Metrics Report

SURGICAL SITE INFECTION 2012-2017



Source: AdventHealth Head and Neck Oncology Database

Pediatric Oncology



Foad Hajjar, MD

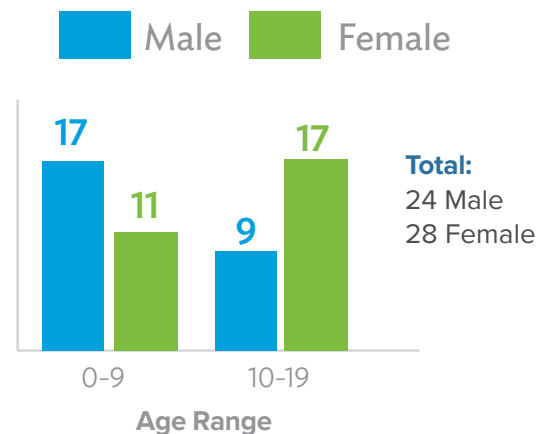
*Medical Director
Pediatric Hematology & Oncology
AdventHealth for Children*

The Pediatric Hematology & Oncology offers cancer care for patients with sickle cell disease, thalassemia, bleeding disorders, coagulation problems, various cytopenias, leukemia and other childhood cancers. As a Children's Oncology Group (COG) affiliate, we can offer leading-edge clinical trials.

Pediatric Cancer Cases

Age at Diagnosis by Gender

In 2017, AHCI specialists treated 54 children with cancer; slightly more than half were females. Of the 26 males seen, most were in the 0 to 9 age range at diagnosis, while most female cases were diagnosed in the 10 to 19 age range.



Source: AHCI Cancer Registry

Publications

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Pediatric Oncology

Pediatric Cancer Cases

DIAGNOSIS BY GENDER

Blood and bone marrow and brain cancers were the most commonly treated childhood cancers at AHCI in 2017.

Site Name	Total		Male		Female	
	Number	%	Number	%	Number	%
Adrenal Gland	1	2%	1	100%	0	0%
Blood & Bone Marrow	17	31%	8	47%	9	53%
Bones, Joints & Articular Cartilage	3	5%	1	33%	2	67%
Bones, Joints & Other Unspecified Sites	1	2%	1	100%	0	0%
Brain	16	29%	7	44%	9	56%
Connective Subcutaneous Other Soft Tissue	3	5%	1	33%	2	67%
Heart Mediastinum Pleura	1	2%	1	100%	0	0%
Kidney	1	2%	1	100%	0	0%
Liver & Bile Ducts	1	2%	1	100%	0	0%
Lymph Nodes	3	5%	2	67%	1	33%
Meninges	1	2%	0	0%	1	100%
Other Endocrine Glands	1	2%	0	0%	1	100%
Other Ill-Defined Sites	1	2%	1	100%	0	0%
Retroperitoneum & Peritoneum	2	4%	0	0%	2	100%
Testis	1	2%	1	100%	0	0%
Thyroid Gland	2	4%	0	0%	2	100%

Source: AHCI Cancer Registry

Radiation Oncology



Matthew Biagioli, MD, MS
*Medical Director
Radiation Oncology
AdventHealth Cancer Institute*

AdventHealth Cancer Institute offers extensive expertise and experience in a wide range of radiation treatment modalities. With its focus on evidence-based medicine, the team uses a disease-specific approach that ensures patients are evaluated by physicians with expertise in the appropriate discipline of oncology. Available treatments include external beam radiation therapy, intensity-modulated radiation therapy, stereotactic body radiation therapy, volumetric modulated arc therapy, Gamma Knife®, and intra-cavity and interstitial brachytherapy.

AdventHealth Radiation Oncology is one of the few programs in the country to offer MRI-based brachytherapy for prostate cancer/gynecological malignancies, which enables optimal targeting of radiation and reduces the dose to critical structures. The physician team collaborates with specialists in surgery, medical oncology, neurosurgery, otolaryngology, gastroenterology, genitourinary and gynecology to improve patient outcomes.

Publications

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Altazi BA, Zhang GG, Fernandez DC, Montejo ME, Hunt D, Werner J, **Biagioli MC**, Moros EG. Reproducibility of F18-FDG PET radiomic features for different cervical tumor segmentation methods, gray-level discretization, and reconstruction algorithms. *J Appl Clin Med Phys*. 2017 Nov;18(6):32-48. doi: 10.1002/acm2.12170. Epub 2017 Sep 11. PubMed PMID: 28891217; PubMed Central PMCID: PMC5689938.

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Thoracic Oncology



Mark A. Socinski, MD
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Tarek Mekhail, MD, MSc, FRCSI, FRCSEd
*Medical Director
Thoracic Cancer Program
Advent Health Cancer Institute*



Joseph Boyer, MD
*Surgical Director
Thoracic Cancer Program
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The AHCI Thoracic Cancer Program has received national recognition for its multidisciplinary approach to diagnosing and treating lung and esophageal cancers, mesothelioma, and other cancers involving organs within the thorax. AHCI is one of the most active participants in lung and esophageal clinical trials in the nation.

2017 HIGHLIGHTS

- First robot-assisted esophagectomy performed with comparable outcomes to open esophagectomy with respect to morbidity and mortality.
- Opened six new clinical trials, with 28 patients enrolled in 11 open thoracic cancer trials.
- Presented 225 cases at 44 thoracic cancer conferences with 86 percent multidisciplinary team approach.
- Over 300 patients evaluated with low dose CT for lung cancer screening, with four cases of confirmed lung cancer.
- Community Partnership with American Lung Association for Lung Expo and Lung Force Run/Walk.
- Discharge mortality rate (1.54%) lower than national average for lobectomy, 0.95% for lobectomy for lung cancer.

Thoracic Oncology

Publications

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Wang K, Eblan MJ, Deal AM, Lipner M, Zagar TM, Wang Y, Mavroidis P, Lee CB, Jensen BC, Rosenman JG, **Socinski MA**, Stinchcombe TE, Marks LB. Cardiac Toxicity After Radiotherapy for Stage III Non-Small-Cell Lung Cancer: Pooled Analysis of Dose-Escalation Trials Delivering 70 to 90 Gy. *J Clin Oncol*. 2017 May 1;35(13):1387-1394. doi: 10.1200/JCO.2016.70.0229. Epub 2017 Jan 23. PubMed PMID: 28113017; PubMed Central PMCID: PMC5455462.

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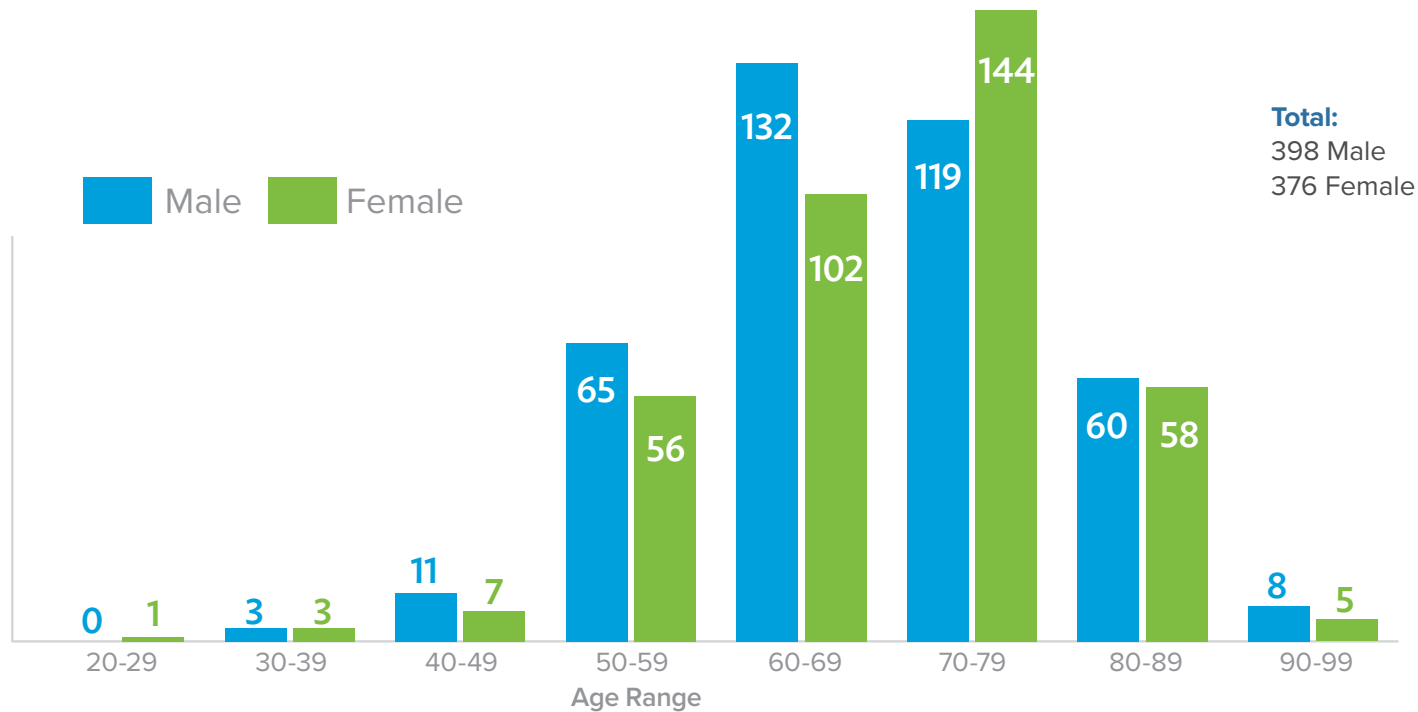
Husain H, Martins R, Goldberg S, Senico P, Ma W, Masters J, Pathan N, Kim DW, **Socinski M**, Golberg Z, Cho BC. Phase 1 Dose Escalation of PF-06747775 (EGFR-T790M Inhibitor) in Patients with Advanced EGFRm (Del 19 or L858R +/- T790M) NSCLC. *Journal of Thoracic Oncology* 12(1), Supplement S: S1185-S1185. Meeting Abstract P3.02b001, Published Jan 2017.

Thoracic Oncology

Lung Cancer Cases

AGE AT DIAGNOSIS BY GENDER

In 2017, almost one-third of males diagnosed with lung cancer at AHCI were from 60 to 69 years old, while 38 percent of women were diagnosed between the ages of 70 to 79.



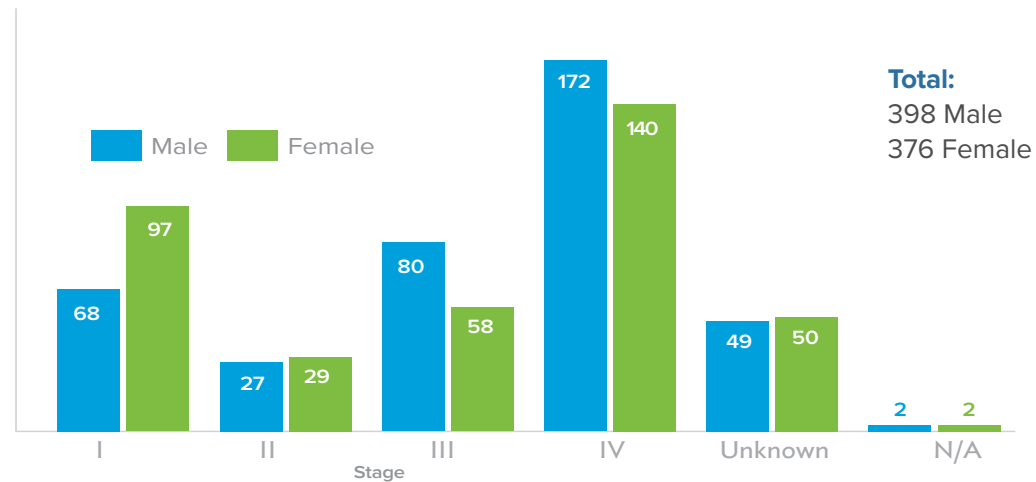
Source: AHCI Cancer Registry
Chart depicts number of patients.

Thoracic Oncology

Lung Cancer Cases

STAGE BY GENDER AT DIAGNOSIS

Patients were most commonly diagnosed at Stage IV in 2017. Forty percent of all patients were diagnosed at that stage, representing 43 percent of men.

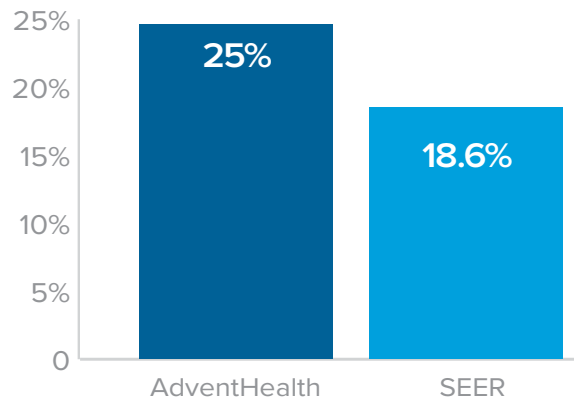


Lung Cancer Cases

FIVE-YEAR SURVIVAL

Cases Diagnosed 2008-2014

The five-year survival rate for lung cancer patients treated at AHCI significantly exceeded national data.



AHCI Tri-County vs. SEER (SEER = Surveillance, Epidemiology and End-Results)
Sources: AHCI Cancer Registry; SEER.gov CanQues



Thoracic Oncology

Lung Cancer Primary Procedures

Almost 42 percent of primary procedures in 2017 were lobectomy resections, followed by mediastinoscopy (23 percent) and wedge (9 percent).

PROCEDURE		CASES	D/C MORTALITY RATE
Resections	Pneumonectomy	13	18.2%
	Bilobectomy	6	0%
	Lobectomy	106	1%
	Sleeve Resection	4	0%
	Segmentectomy	15	0%
	Wedge (s)	24	4.4%
Biopsies	Mediastinoscopy	59	0%
	Chamberlain	2	0%
	Pleural Bx	7	0%
	Mediastinal LN	3	0%
	Mediastinal Mass	2	0%
Other	Pericardial Window	9	12.5%
	Other	4	25%
Overall Total		254	

Source: AHCJ Thoracic Surgery Database

Robotic Procedures Case Breakdown

Of the 126 patients who underwent robotic lung cancer procedures in 2017, more than 49 percent had a lobectomy.

PROCEDURES	CASES
Lobectomy	62
1st Cervical Rib Resection	14
Wedge Resection	9
Thymectomy	8
Sympathectomy	6
Multiple Wedge Resection	5
Segmentectomy	5
Other	3
Funduplication	2
Myotomy	2
Diaphragmatic Hernia Repair	2
Pleural Biopsy	2
Esophagectomy	2
Mediastinal Mass Resection	1
Bilobectomy	1
Thoracic Duct Ligation	1
Other Esophageal	1

Source: AHCJ Thoracic Surgery Database

Urologic Oncology



Vipul Patel MD, FACS

*Surgical Director
Urologic Cancer Program
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Carlos Alemany, MD

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Clinical Research
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Inoel Rivera, MD, FACS

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AHCI's oncology team includes some of the country's leading experts in urologic cancer. The team uses the latest in diagnostic technology and advanced surgical techniques, including MRI Fusion Biopsy, to customize patient treatment plans. AHCI pioneered robotic prostate surgery, which accounts for more than 85 percent of all radical prostatectomy in the United States. The team is highly skilled in the use of the da Vinci® Surgical System – a less invasive, robotic-assisted procedure that has revolutionized the surgical process.

2017 HIGHLIGHTS

- In a live global streaming from the AdventHealth Nicholson Center, Dr. Patel performed his 10,000th robotic prostatectomy case. He followed this achievement with global lectures at the University College London Hospitals (UCLH) Symposium in London, the Sydney Robotics Summit, Research + Innovation in Australia, and the Congress of the Sociedad Colombiana De Urologia in Cartagena.
- Opened a new institutional review board (IRB)-approved laboratory study to evaluate a blood biomarker that can distinguish between the presence or absence of aggressive prostate cancer. In this collaboration with Genomic Health, Inc., scientists research a blood biomarker as a way to possibly detect at diagnosis the aggressiveness of prostate cancer in men in order to better steer treatment.



Urologic Oncology

Publications

Rassweiler JJ, Autorino R, Klein J, Mottrie A, Goezen AS, Stolzenburg JU, Rha KH, Schurr M, Kaouk J, **Patel V**, Dasgupta P, Liatsikos E. Future of robotic surgery in urology. *BJU Int*. 2017 Dec;120(6):822-841. doi: 10.1111/bju.13851. Epub 2017 Apr 22. Review. PubMed PMID: 28319324.

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Conferences

Dr. Vipul Patel: Course Director; Advanced Robotic Urologic Oncology: Extreme Unforgettable Cases and Their Management; Moderator-Poster Session: Prostate Cancer: Localized: Surgical Therapy IV. American Urologic Association Annual Meeting, May 12-15, Boston.

Dr. Vipul Patel: Video: Nerve Sparing Robotic Radical Prostatectomy; Video: Nuances of Salvage RALP; Panel: Lessons Learned, Challenging Cases and Complications; Lectures: Lessons Learned From 10,000 RALP: The Humbling and Never-Ending Learning 3Curve, An Introduction to Prostate Cancer Biomarkers. Society of Robotic Surgery Annual Meeting, Feb. 24-26, Miami.

Dr. Vipul Patel: Lecture: Lessons Learned From 10,000 RALP cases; Live surgery: Robotic Radical Prostatectomy; Lecture: Experience with Amniofix Early Outcomes; UCLH Symposium, Jan. 20-24, London.

Dr. Vipul Patel: Lecture: Experience from 10,000 Robotic Cases; Lecture: How I Handle Intraoperative Complications; Live Case: Nerve-Sparing Robotic Radical Prostatectomy. Round Table Discussion – Open Vs. Robot: Brisbane Randomized Control Trial. Rise of the Machines Q&A; Moderator: New Robots and Novel Technology. Sydney Robotics Summit, Research + Innovation, June 21-27, 2017, Sydney, Australia.

Dr. Vipul Patel: Lecture: Dissection of the Neurovascular Bundle: Retrograde; Lecture: Complications in Prostatectomy and Difficult Situations; Lecture: Minimally Invasive Surgery in Uro-Oncology: Past, Present and Future; Debate: Case Discussion; XXXVI Brazilian Congress of Urology, Aug. 24-29, Fortaleza, Brazil.

Abstracts

Patel V; Prostate Cancer in Men Younger Than 55: Rates of Functional Recovery Post-Robotic Assisted Laparoscopic Radical Prostatectomy; Technical Factors Preventing Full Nerve Sparing During Robotic-Assisted Laparoscopic Radical Prostatectomy in Patients That Are Candidates for Full Nerve Sparing; Robot Assisted Radical Prostatectomy for Prostates Over 100 Grams: Technique and Outcomes; Salvage Robotic-Assisted Radical Prostatectomy: Oncologic and Functional Outcomes from Two High-Volume Institutions; Safety of Live Surgery in Urology. Propensity Scored Matched Analysis, Boston. American Urological Association Annual Meeting, May 12-16.

Patel V; Safety of Live Surgery in Urology. European Association of Urology 2017, Mar. 24-28, London.

Urologic Oncology

Genitourinary Cancer Case Incidence

By Site and Gender

Prostate cancer remained the most diagnosed or treated genitourinary cancer at AHCI, with 1,478 new cases in 2017.

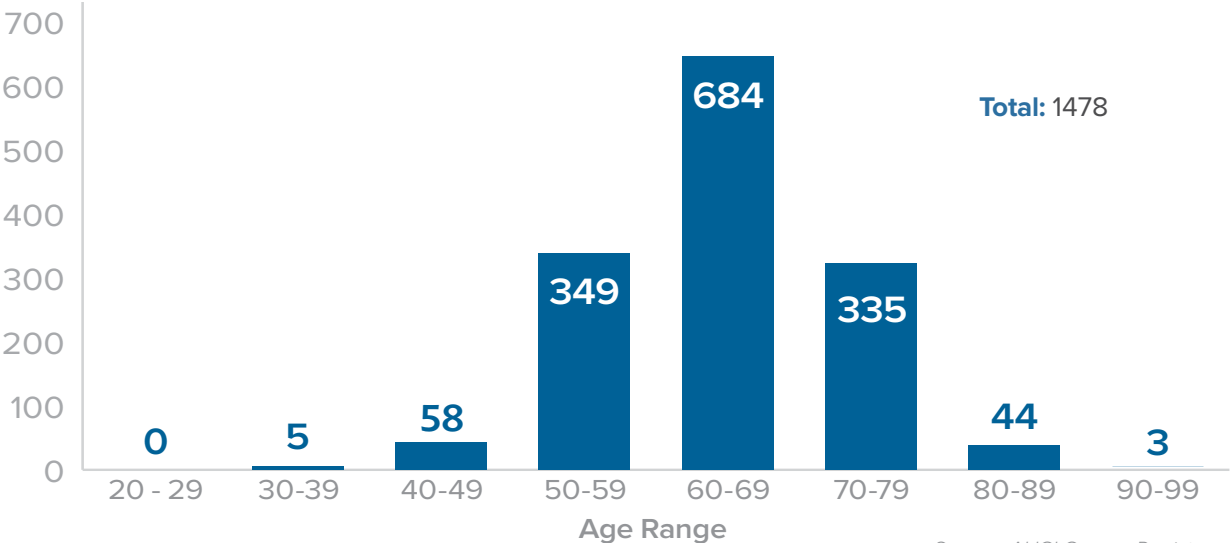
Source: AHCI Cancer Registry

Site Name	Total	Male	Female
Prostate Gland	1478	1478	0
Kidney	266	175	91
Urinary Bladder	261	198	63
Testis	35	34	0
Kidney, Renal Pelvis	22	12	10
Ureter	17	14	3
Penis	5	5	0
Other & Unspecified Urinary Organs	3	1	2
Other & Unspecified Male Genital Organs	1	1	0
Overall Totals	2088	1918	169

Prostate Cancer Cases

Age at Diagnosis

About 46 percent of prostate cancer patients at AHCI were between 60 to 69 years old at diagnosis.



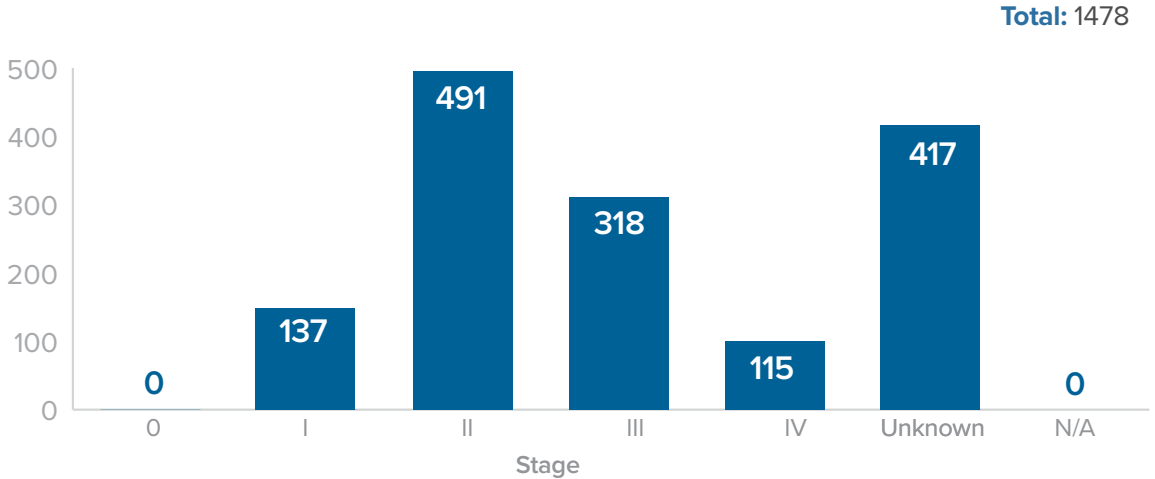
Source: AHCI Cancer Registry

Urologic Oncology

Prostate Cancer Cases

STAGE AT DIAGNOSIS

Just less than 30 percent of AHCI prostate cancer patients in 2017 had stage II disease at diagnosis.



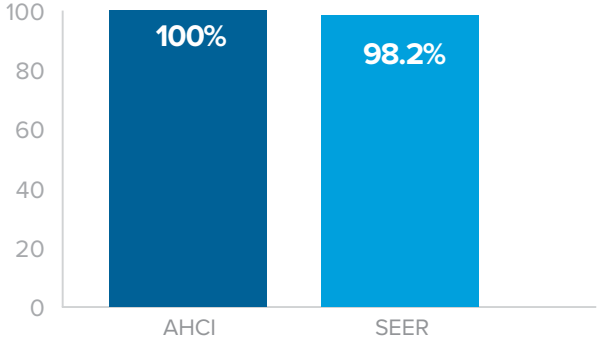
Source: AHCI Cancer Registry

Prostate Cancer

FIVE-YEAR SURVIVAL

Cases Diagnosed 2007-2014

The five-year survival rate of AHCI prostate cancer patients in 2017 was 100 percent, as it was in 2016. Patients have one of the highest survival rates of all cancer types due to early-screening efforts and effective treatment options.



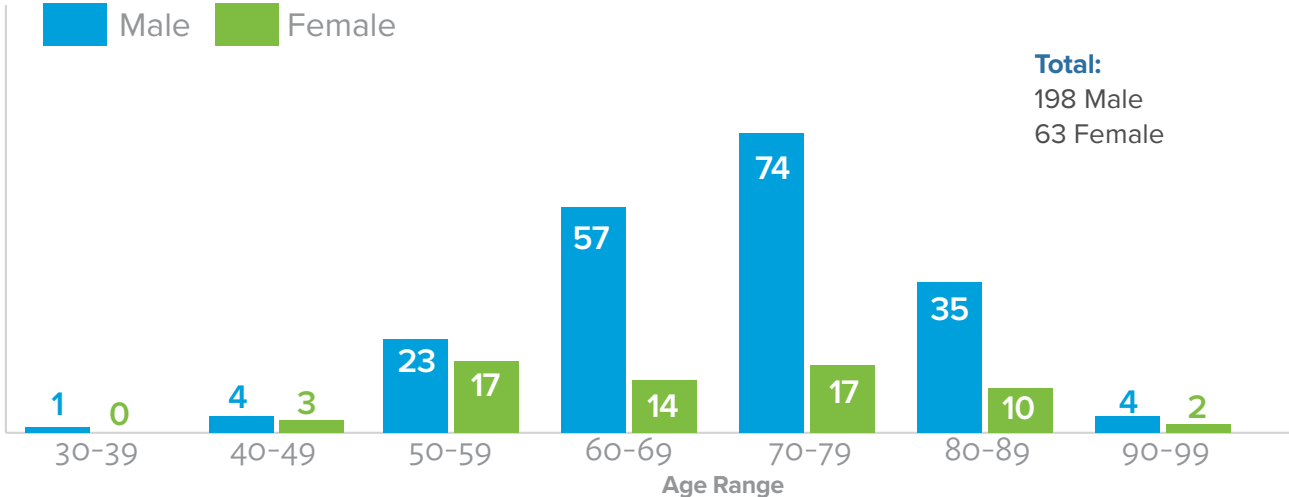
AHCI Tri-County vs SEER (SEER = Surveillance, Epidemiology and End-Results)
Sources: AHCI Cancer Registry; SEER.gov CanQues

Urologic Oncology

Bladder Cancer Cases

AGE AT DIAGNOSIS BY GENDER

In 2017, male patients with bladder cancer were most often diagnosed between 70 to 79 years old, while female patients were most often diagnosed between 60 to 69 years old.

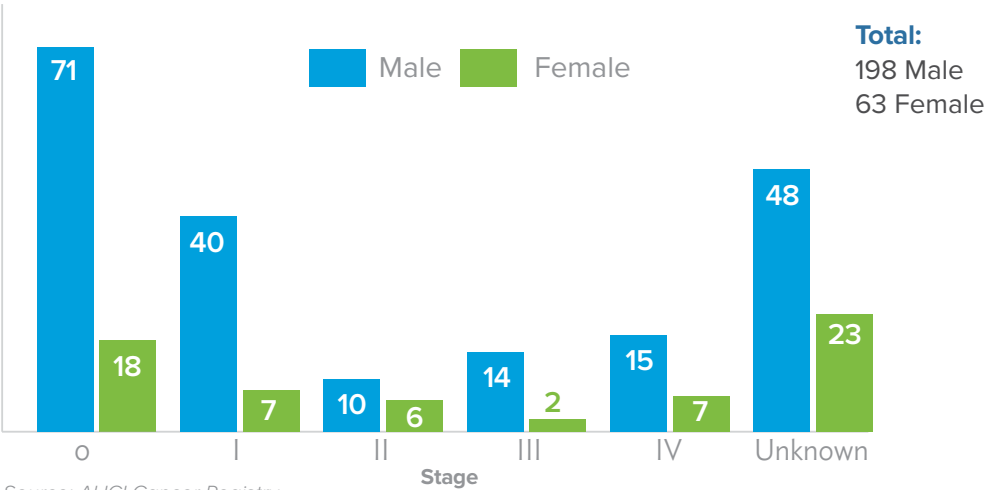


Source: AHCI Cancer Registry

Bladder Cancer Cases

STAGE AT DIAGNOSIS BY GENDER

In 2017, male patients were most often diagnosed with bladder cancer in stage 0. The disease was detected in men three times more frequently than in women.



Source: AHCI Cancer Registry

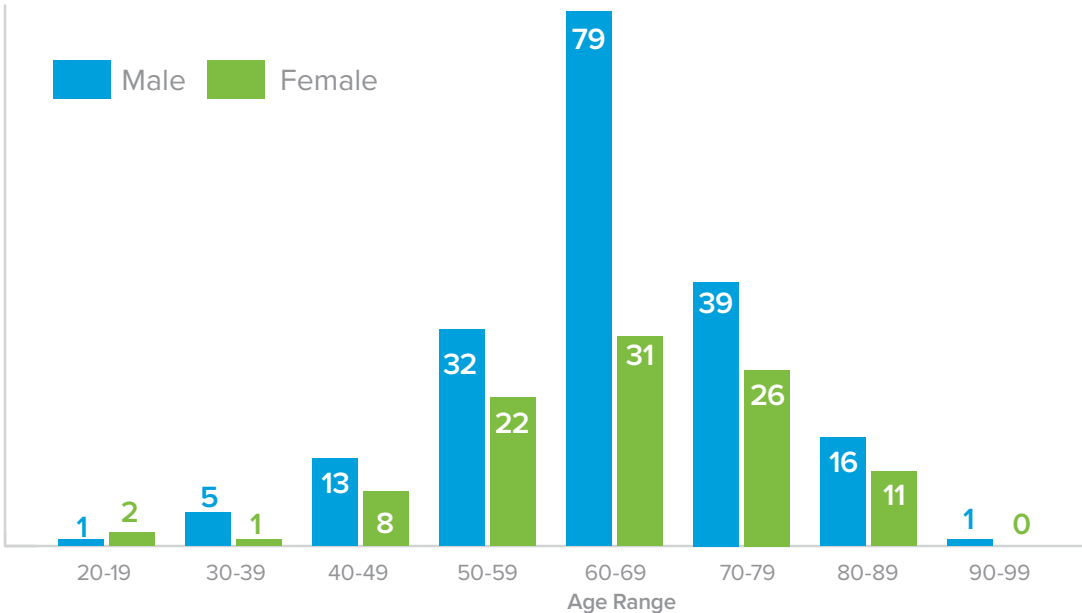
Urologic Oncology

Kidney Cancer Cases

AGE AT DIAGNOSIS BY GENDER

AHCI diagnosed 287 cases of kidney cancer in 2017. Both male and female patients were most likely to be from 60 to 69 years

Source: AHCI Cancer Registry

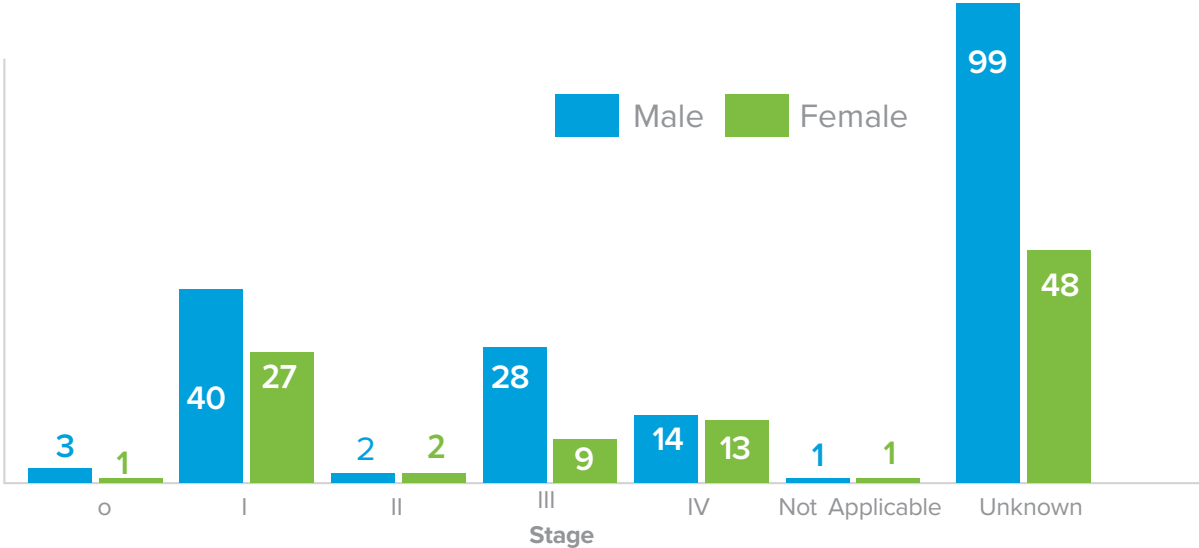


Kidney Cancer Cases

STAGE AT DIAGNOSIS BY GENDER

At AHCI in 2017, kidney cancer was most frequently diagnosed in both men and women at stage I.

Source: AHCI Cancer Registry

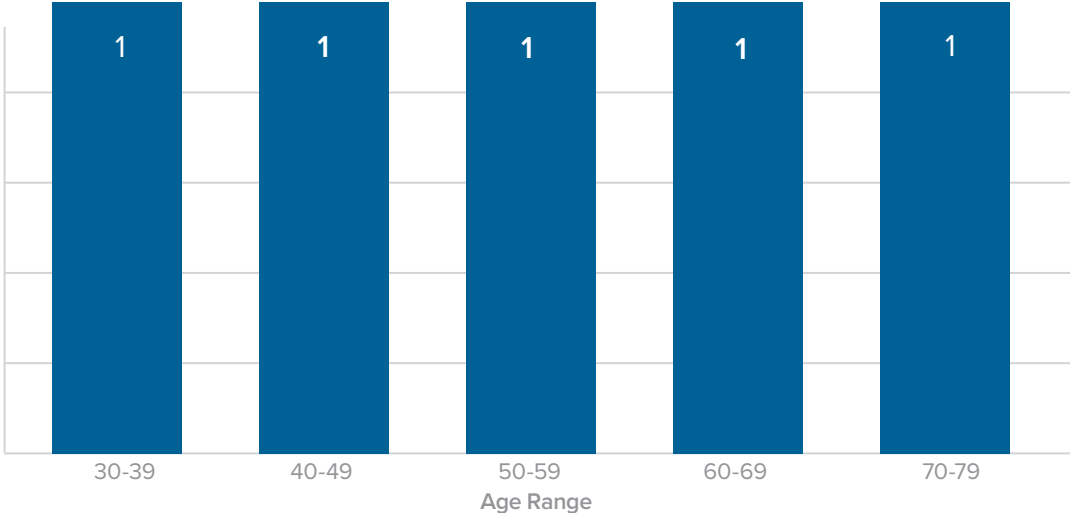


Urologic Oncology

Penile Cancer Cases

AGE AT DIAGNOSIS

Five patients were diagnosed with penile cancer at AHCI in 2017, one per decade of age from 30 to 79 years old.



Source: AHCI Cancer Registry

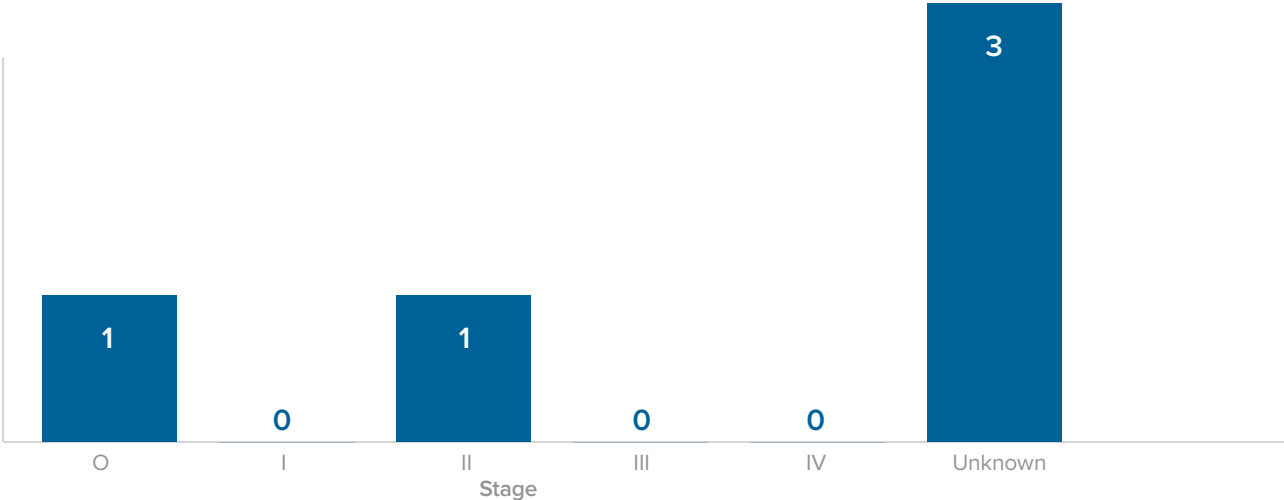
Penile Cancer Cases

STAGE AT DIAGNOSIS

Half of the patients at AHCI were diagnosed in the earlier stages of penile cancers.

Number of Cases Excluded: 0

This report includes CA in-situ cervix cases, squamous and basal cell skin cases, and intraepithelial neoplasia cases.



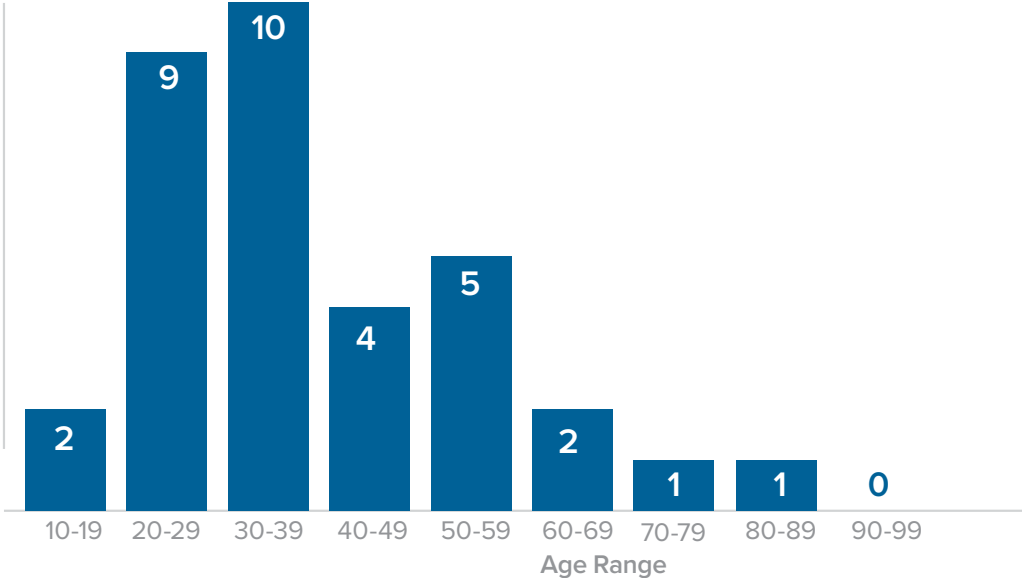
Source: AHCI Cancer Registry

Urologic Oncology

Testicular Cancer Cases

AGE AT DIAGNOSIS

34 patients were diagnosed with testicular cancer in 2017, most of whom were between the ages of 20 and 39.

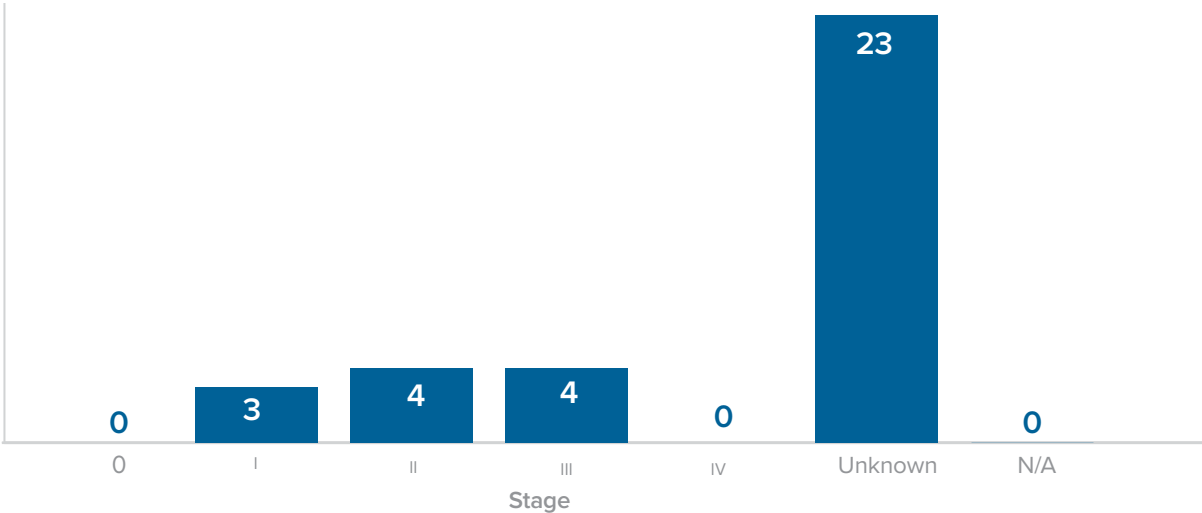


Source: AHCI Cancer Registry

Testicular Cancer Cases

STAGE AT DIAGNOSIS

In 2017, almost one-third of patients with testicular cancer were diagnosed in stages I, II or III.



Source: AHCI Cancer Registry

Cancer Rehabilitation



Julie Sexton
Administrative Director

AHCI introduced a cancer rehabilitation program in 2012 to help patients manage stress and avoid the physical declines often associated with cancer treatments. The Outpatient Cancer Rehabilitation program includes physical therapy, occupational therapy, speech therapy, audiology services, massage therapy and medical fitness. Clinicians are specifically trained to treat patients who have cancer.

Research has shown that therapeutic interventions decrease cancer-related fatigue, improve range of motion, maintain or increase strength, reduce anxiety, improve balance to decrease the risk for falls, and maximize quality of life.

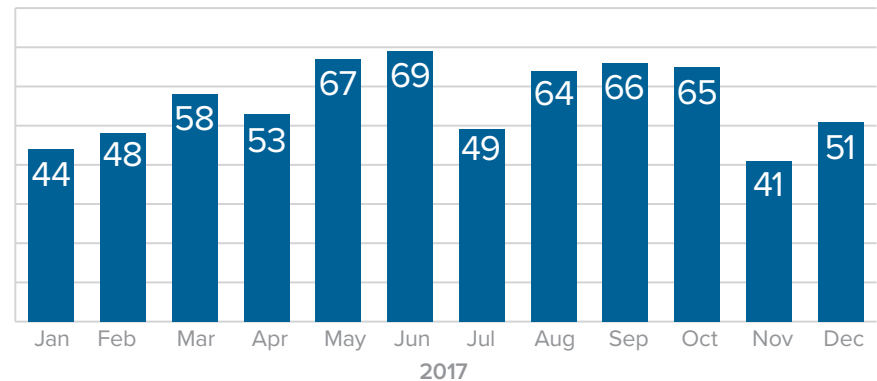
The program's goals are to begin rehabilitation at diagnosis in order to assess the functional baseline, prevent or decrease physical deficits that may result from cancer treatments, and serve as a resource to patients throughout treatment to maximize quality of life.

2017 HIGHLIGHTS

- Expanded cancer rehabilitation services to a new clinic in Orlando, increasing total to 18 outpatient rehabilitation locations and the treatment of 675 patients.
- Ranked in the top 75th percentile in Press Ganey patient satisfaction score.
- Ongoing presence of outpatient physical therapists and occupational therapists at monthly Breast and Head/Neck Tumor Boards.

Referrals to Cancer Rehabilitation

At AHCI referrals to cancer rehabilitation patients grew three percent, reaching 675 patients.



Source: Cancer Rehab Program Database

Research Overview

Carlos Alemany, MD, *Medical Director, Clinical Research*

Bryan Allinson, MBA, *Senior Director, Research Institute*

Susan Coakley, MHA, CCRP, *Director, Clinical Research and Regulatory, Orlando Hospital*

Lorraine Hickson, MRA, CCRP, *Manager, Clinical Research and Regulatory, Celebration Hospital*

Cameron Richardson, RN, BSN, OCN, *Clinical Research Nurse Manager, Translational Research and NCI Strategy*

Felipe Valerio, CCRC, CCRA, DHA, *New Study Acquisition Coordinator, Blood and Marrow Transplant and Urology Associates*

Robin Barron, RN, MSN, CCRP, *Clinical Research Operations Manager, Center for Interventional Endoscopy*

Cancer studies can identify new and better ways to prevent and treat cancer and improve the quality of a participant's life during and after treatment. They give patients direct access to promising new therapies, including the newest drugs in development, precision medicine approaches, immunotherapy and diagnostics. The majority of clinical research comes at no additional cost to participants.

Two of the most promising approaches in research today are precision medicine and immuno-oncology:

- Research in immuno-oncology unlocks the body's natural ability to attack and fight off cancer. This involves reprogramming the immune system so it recognizes and destroys cancer cells, which under normal circumstances may be able to evade an immune system attack.
- Research in precision medicine studies includes discovery, development, optimization and long-term outcomes of the individual variability in a patient's genes, environment and lifestyle. Precision medicine provides a means for AdventHealth physicians to tailor treatments such as immuno-oncology, surgical oncology, radiation oncology and other modalities.

Cancer research is managed by the AdventHealth Research Institute (AHRI) in close collaboration with the AdventHealth Cancer Institute and the AdventHealth Medical Group. Cancer researchers have access to a dedicated clinical research unit, wet laboratory, research magnetic resonance imaging, research IT infrastructure, investigational drug services and tissue processing. AHRI is accredited by the Association for the Accreditation of Human Research Protection Programs.

Cancer research continues to provide access to more than 200 clinical trials at any given time for both adult and pediatric patients with solid and circulating tumors. The centralized clinical research office provides comprehensive and valuable support to more than 70 investigators with all aspects of research and clinical trial operations. The clinical research department is comprised of research nurses, data managers, research assistants, regulatory coordinators and biostatisticians.

2017 HIGHLIGHT

- Almost 1,800 patients enrolled in oncology trials.

Current Research Affiliations

Cancer research at AdventHealth includes the newest and most innovative studies. Sponsors and collaborators include:

- National Cancer Institute
- National Clinical Trials Network
 - Alliance for Clinical Trials in Oncology
 - Alliance Foundation Trial
 - Blood and Marrow Transplant Clinical Trials Network
 - Center for International Blood and Marrow Transplant Research
 - Children's Oncology Group
 - Eastern Cooperative Oncology Group-ACRIN Cancer Research Group
 - Gynecologic Oncology Group
 - National Cord Blood Program
 - National Heart, Lung and Blood Institute
 - National Marrow Donor Program

Research Overview

- NRG Oncology
- Radiation Therapy Oncology Group
- SWOG Cancer Research Network
- Fraternal Order of Eagles
- Medical University of South Carolina
- Moffitt Cancer Center
- Mount Sinai Health System
- Phi Beta Psi
- Research Foundation of the American Society of Colon and Rectal Surgeons (ASCRS)
- Sanford Burnham Prebys Medical Discovery Institute
- University of Central Florida
- University of North Carolina
- University of Pittsburgh
- University of Texas Health San Antonio
- Industry/pharmaceutical-sponsored trials

National Clinical Trial Network (NCTN) References:

- Blood and Marrow Transplant Network
- Alliance for Clinical Trials in Oncology
- Alliance Foundation Trials
- NRG Oncology
- Gynecologic Oncology Group
- Eastern Cooperative Oncology Group

Examples of AdventHealth Research Affiliations:

- Continued a study with Moffitt Cancer Center to investigate immunotherapy on AdventHealth cancer patients.
- Collaborated with Research Foundation of the American Society of Colon and Rectal Surgeons to study innovative surgical robotics.
- Sub-recipient for a grant funded by the Florida Department of Health through the William G. “Bill” Bankhead Jr. and David Coley Cancer Research Program.

AdventHealth participates in the National Clinical Trial Network as a collaborator with organizations including:

American College of Radiology	Spectrum Health, West Michigan
Baptist Health	Susan F. Smith Center for Women’s Cancers
Baylor Scott & White Health	St. Anthony’s Medical Center
Cancer Center of Iowa	Stanford University
Case Western Reserve University	University College London
Cedars-Sinai Medical Center	University of Alabama at Birmingham
City of Hope National Medical Center	University of California, Los Angeles
Cornell University Weill Medical College	University of California, San Francisco
Dana Farber Cancer Institute	University of Chicago
Duke University Medical Center	University of Cincinnati
European Network of Gynecologic Trial Groups	University of Colorado Denver
Fred Hutchison Cancer Research Center	University of Columbia
Harvard University	University of Florida College of Medicine
Jefferson Hospital	University of Kansas
Jewish Hospital	University of Michigan
Johns Hopkins University	University of Minnesota
Loyola Medicine	University of Missouri
Karmanos Cancer Center	University of Nebraska
Massachusetts General Hospital Cancer Center	University of North Carolina
Mayo Clinic	University of Oklahoma
Medical College of Wisconsin	University of Pennsylvania
Medical University of Vienna	University of Rochester Medical Center
Memorial Sloan Kettering	University of Texas MD Anderson Cancer Center
New York University Medical Center	University of Texas Southwestern Medical Center
North Shore University Health System	University of Utah
Ohio State University	University of Virginia
Partners HealthCare	University of Washington
Penn State College of Medicine	US Oncology Network
Roswell Park	Tulane University
Rutgers University	
Virginia Commonwealth University	

Oncology Clinical Research



Carlos Alemany, MD

*Medical Director
Clinical Research
AdventHealth Cancer Institute*



Steven Goldstein, MD

*Medical Director
Blood and Marrow Transplant Program
AdventHealth Cancer Institute*

Clinical trials are carefully designed research studies of new and innovative medical treatments. Through cancer trials, doctors hope to find new ways to improve patients' cancer treatments and quality of life. Our trials offer the most advanced therapies available. Our centralized clinical research team is comprised of research nurses, data managers, research assistants and regulatory coordinators.

The clinical research team supports these programs: Neurological, Breast, Gastrointestinal, Pediatric, Pancreatic and Hepatobiliary, Genitourinary, Gynecological, Thoracic and Bone Marrow Transplant.

2017 HIGHLIGHTS

- 30 new adult oncology studies were activated in 2017 by the AHCI Clinical Research Program. On average, 55 studies were open to enrollment.
- In Pediatric Oncology, the Children's Oncology Group (COG) activated two new studies in 2017. An average of 20 studies were open to enrollment.
- The Pediatric Oncology department maintained a perfect score of 100 percent for the Data Currency Score for the third consecutive year. In addition, COG ranked in the 60th percentile for number of studies approved and enrolled.

Publications

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CLINICAL HIGHLIGHTS

- AHCI initiated Phase 2 Clinical Trial of GL-ONC1 in Recurrent

Ovarian Cancer

- The Phase 2 trial, VIRO-15 (Oncolytic Vaccinia Immunotherapy in Recurrent Ovarian Cancer), is being led by Dr. Robert Holloway, a world-renowned gynecologic oncologist with extensive clinical trial experience in gynecologic malignancies. Additional site(s) in the U.S. are planned as the trial progresses. The study is based on positive data of GL-ONC1 from Phase 1b clinical study conducted at AHCI in heavily pretreated, platinum-resistant/refractory ovarian cancer patients. Administration of GL-ONC1 as a monotherapy was shown to have clinically significant results including documented objective response and tumor-specific T-cell response a favorable trend of durable response, and a quality of life benefit.
- The AHCI Clinical Research office organized the Second Annual Clinical Research Pipeline Meeting in April 2017. Physician Investigators and translational/clinical research and clinical professionals attended the two-day scientific meeting to learn about oncology agents in development for more than 10 types of malignancies. The program included presentations with more than 15 key pharmaceutical medical scientific liaisons. Keynote speaker for this program included Scott Antonia, MD, PhD; Moffitt Cancer Center, Chair, Department of Thoracic Oncology.

Clinical Research Affiliations

- National Cancer Institute (NCI)/National Institute of Health (NIH)
 - National Clinical Trials Network (NRG & Alliance main members)
 - Clinical Trial Support Unit access to Southwest Oncology Group (SWOG) and Eastern Cooperative Oncology Group (ECOG)
 - COG
- University of Central Florida
- Moffitt Cancer Center
- Industry-funded clinical trial collaborations

Translational Research



Steven R. Smith, MD

*Senior Vice President
Chief Scientific Officer AdventHealth*

*Scientific Director
Translational Research Institute for
Metabolism and Diabetes*



Publications

Holloway RW, Ahmad S, Kendrick JE, Bigsby GE, Brudie LA, Ghurani GB, Stavitzski NM, Gise JL, Ingersoll SB, Pepe JW. A Prospective Cohort Study Comparing Colorimetric and Fluorescent Imaging for Sentinel Lymph Node Mapping in Endometrial Cancer. *Ann Surg Oncol.* 2017 Jul;24(7):1972-1979. doi: 10.1245/s10434-017-5825-3. Epub 2017 Mar 6. PubMed PMID: 28265777.

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Cancer Registry Data

The cancer statistics included in this report are the result of work completed by the AdventHealth Cancer Registry team, which collects a comprehensive data set for each newly diagnosed cancer patient. This data set includes information about patients' presenting symptoms, diagnostic workups, clinical and pathologic stages, treatments and lifelong follow-up activities. Data are collected according to Cancer Program Standards established by the American College of Surgeons Commission on Cancer, as well as the Florida Cancer Data Systems (FCDS), the state's central registry. Data collected are disease-specific and standardized to ensure accurate information that can be compared with national and state outcomes for each type of cancer.

Cancer Cases Diagnosed in 2017

National Comparison of the Select Cancer Sites to AHCI Tri-county Area

Estimated Cancer Cases from the American Cancer Society Cancer Facts & Figures 2017

Breast cancer was the most commonly diagnosed cancer nationally in 2017 and the second-most common in Florida. The most common in Florida was lung cancer. At AHCI, prostate cancer made up 17 percent of cases diagnosed and treated, whereas breast cancer accounted for almost 15 percent.

Primary Site	AdventHealth Central Region - South		Florida		National	
	Cases	Percent	Cases	Percent	Cases	Percent
Breast	1,011	14.7%	18,170	14.6%	252,710	15%
Lung	619	9%	19,000	15.2%	222,500	13.2%
Prostate	1,181	17.2%	12,830	10.3%	161,360	9.6%
Colorectal	554	8.1%	9,930	8%	135,430	8.0%
Bladder	185	2.7%	6,430	5.2%	79,030	4.7%
Non-Hodgkins Lymphoma	218	3.2%	5,410	4.3%	72,240	4.3%
Corpus Uteri	283	4.1%	4,230	3.4%	61,380	3.6%
Melanoma	144	2.1%	7,610	6.1%	87,110	5.2%
Leukemia	212	3.1%	5,070	4.1%	62,130	3.7%
Cervix	58	0.8%	1,040	0.8%	12,820	0.8%
All Others	2,403	35%	35,020	28.1%	542,070	32.1%
Total Cases	6,868	100%	124,740	100%	1,688,780	100%

*Tri-county area includes Orange, Osceola and Seminole counties.
Sources: American Cancer Society, Cancer Facts & Figures 2017; AHCI Cancer Registry*

Cancer Registry Data

AHCI Patients – Race by Ethnicity

Race	Non-Spanish		Mexican		Puerto Rican		Cuban		South or Central American - Not Brazil	
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
White	5823	81.8 %	44	0.62 %	185	2.6 %	47	(0.66 %)	42	0.59 %
Black	940	97.21 %	1	0.1 %	7	0.72 %	7	0.72 %	0	0 %
American Indian, Aleut, Eskimo	12	80 %	1	6.67 %	0	0 %	0	0 %	0	0 %
Chinese	10	100 %	0	0 %	0	0 %	0	0 %	0	0 %
Japanese	2	100 %	0	0 %	0	0 %	0	0 %	0	0 %
Filipino	20	95.24 %	0	0 %	0	0 %	1	4.76 %	0	0 %
Hawaiian	3	100 %	0	0 %	0	0 %	0	0 %	0	0 %
Korean	2	100 %	0	0 %	0	0 %	0	0 %	0	0 %
Vietnamese	18	100 %	0	0 %	0	0 %	0	0 %	0	0 %
Thai	3	100 %	0	0 %	0	0 %	0	0 %	0	0 %
Asian Indian or Pakistani, not otherwise specified	38	97.44 %	0	0 %	1	2.56 %	0	0 %	0	0 %
Asian Indian	9	100 %	0	0 %	0	0 %	0	0 %	0	0 %
Pakistani	4	100 %	0	0 %	0	0 %	0	0 %	0	0 %
Pacific Islander, Not Otherwise Specified	46	93.88%	0	0 %	0	0 %	2	4.08%	0	0 %
Pacific Islander, Not Otherwise Specified	3	100 %	0	0 %	0	0 %	0	0 %	0	0 %
Other	129	51.39 %	1	0.4 %	12	4.78 %	2	0.8 %	4	1.59 %
Unknown	83	68.6 %	0	0 %	1	0.83 %	1	0.83 %	0	0 %
Any Others	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %
Overall Totals	7145	82.73 %	47	0.54 %	206	2.39 %	60	0.69 %	46	0.53 %

Source: AHCI Cancer Registry

Cancer Registry Data

AHCI Patients - Race by Ethnicity

Race	Other Spanish		Spanish, Hispanic Latino, Not Otherwise Specified		Spanish Surname Only		Dominican Republic		Unknown Whether Spanish or Not		All Others		Total Values	
	Case	%	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
White	7	0.1	871	12.23 %	14	0.2 %	9	0.13 %	60	0.84 %	17	0.24 %	7119	82.42 %
Black	0	0 %	5	0.52 %	1	0.1 %	1	0.1 %	4	0.41 %	1	0.1 %	967	11.2 %
American Indian, Aleut, Eskimo	0	0 %	2	13.33 %	0	0 %	0	0 %	0	0 %	0	0 %	15	0.17 %
Chinese	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	10	0.12 %
Japanese	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	2	0.02 %
Filipino	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	21	0.24 %
Hawaiian	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	3	0.03 %
Korean	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	2	0.02 %
Vietnamese	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	18	0.21 %
Thai	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	3	0.03 %
Asian Indian or Pakistani, not otherwise specified	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	39	0.45 %
Asian Indian	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	9	0.1 %
Pakistani	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	4	0.05 %
Pacific Islander, Not Otherwise Specified	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	1	2.04 %	49	0.57 %
Pacific Islander, Not Otherwise Specified	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	3	0.03 %
Other	1	0.4 %	82	32.67 %	0	0 %	0	0 %	19	7.57 %	1	0.4 %	251	2.91 %
Unknown	1	0.83 %	7	5.79 %	0	0 %	1	0.83 %	25	20.66 %	2	0.65 %	121	1.4 %
Any Others	0	0 %	0	0 %	0	0 %	0	0 %	0	0 %	1	100 %	1	0.01 %
Overall Totals	9	0.1 %	967	11.2 %	15	0.17 %	11	(0.13 %)	108	1.25 %	23	0.27 %	8637	100 %

Cancer Registry Data

AHCI Primary Cancer Site Table

Digestive system cancer was the most frequently diagnosed cancer at AHCI in 2017, with colon cancer representing more than 25 percent of those diagnoses. Digestive system cancer was more prevalent among male patients than female.

Primary Site	Total	Class		Gender		AJCC Stage						
		Analytical	Non-Analytical	Male	Female	0	I	II	III	IV	Unk	N/A
All Sites	8599	6868	1731	4596	4003	419	1614	1280	1153	1313	1657	1163
Oral Cavity	242	208	34	180	62	1	12	14	33	117	53	12
Lip	5	5	0	3	2	0	1	2	0	1	1	0
Tongue	84	70	14	73	11	1	4	6	9	45	19	0
Oropharynx	20	17	3	16	4	0	0	0	3	11	6	0
Hypopharynx	3	1	2	2	1	0	0	0	0	2	1	0
Other	130	115	15	86	44	0	7	6	21	58	26	12
Digestive System	1702	1415	287	1001	701	62	323	291	329	348	311	38
Esophagus	93	75	18	76	17	4	12	13	26	20	17	1
Stomach	130	99	31	86	44	1	21	18	14	34	42	0
Colon	449	380	69	256	193	28	62	76	120	86	77	0
Rectum	217	174	43	128	89	8	50	34	56	25	44	0
Anus/Anal Canal	44	39	5	18	26	3	4	16	12	2	7	0
Liver	208	174	34	144	64	0	36	23	38	39	42	30
Pancreas	390	317	73	215	175	15	112	75	37	113	38	0
Other	171	157	14	78	93	3	26	36	26	29	44	7
Respiratory System	867	695	172	471	396	1	181	63	147	347	121	7
Nasal/Sinus	12	9	3	7	5	0	1	1	0	5	4	1
Larynx	73	58	15	61	12	1	15	6	7	27	17	0
Other	12	9	3	8	4	0	1	0	2	5	2	2
Lung/Bronc-Small Cell	116	97	19	54	62	0	20	6	18	58	14	0
Lung/Bronc-Non Small Cell	582	480	102	310	272	0	136	47	109	225	65	0
Other Bronchus & Lung	72	42	30	31	41	0	8	3	11	27	19	4
Blood & Bone Marrow	646	370	276	369	277	0	2	2	1	4	5	632
Leukemia	339	212	127	191	148	0	2	2	1	4	5	325
Multiple Myeloma	170	105	65	105	65	0	0	0	0	0	0	170
Other	137	53	84	73	64	0	0	0	0	0	0	137
Bone	14	11	3	5	9	0	2	1	0	4	5	2
Connect/Soft Tissue	32	25	7	17	15	0	5	3	2	8	11	3

Source: AHCI Cancer Registry

Cancer Registry Data

AHCI Primary Cancer Site Table

Primary Site	Total	Class		Gender		AJCC Stage						
		Analytical	Non-Analytical	Male	Female	0	I	II	III	IV	Unk	N/A
Skin	255	158	97	141	114	58	48	9	12	21	95	12
Melanoma	234	144	90	125	109	58	47	9	12	18	84	6
Other	21	14	7	16	5	0	1	0	0	3	11	6
Breast	1174	1011	163	9	1165	190	412	272	78	69	152	1
Female Genital	585	494	91	0	585	6	213	38	111	96	113	8
Cervix Uteri	83	58	25	0	83	1	20	8	15	19	20	0
Corpus Uteri	314	283	31	0	314	0	163	19	46	38	46	2
Ovary	138	109	29	0	138	0	16	7	44	33	37	1
Vulva	29	26	3	0	29	4	10	2	2	2	9	0
Other	21	18	3	0	21	1	4	2	4	4	1	5
Male Genital	1516	1216	300	1516	0	1	139	496	322	115	442	1
Prostate	1478	1181	297	1478	0	0	137	491	318	115	417	0
Testis	32	29	3	32	0	0	2	4	4	0	22	0
Other	6	6	0	6	0	1	0	1	0	0	3	1
Urinary System	567	449	118	400	167	100	114	22	53	51	224	3
Bladder	261	185	76	199	62	91	47	16	16	22	69	0
Kidney/Renal	289	247	42	188	101	4	67	4	37	27	148	2
Other	17	17	0	13	4	5	0	2	0	2	7	1
Brain & Cns	265	213	52	123	142	0	0	0	0	0	2	263
Brain (Benign)	16	14	2	8	8	0	0	0	0	0	0	16
Brain (Malignant)	97	83	14	62	35	0	0	0	0	0	1	96
Other	152	116	36	53	99	0	0	0	0	0	1	151
Endocrine	281	240	41	106	175	0	94	11	13	31	68	64
Thyroid	217	193	24	65	152	0	94	11	13	29	67	3
Other	64	47	17	41	23	0	0	0	0	2	1	61
Lymphatic System	328	254	74	195	133	0	66	57	48	97	51	9
Hodgkin's Disease	45	36	9	21	24	0	5	16	6	9	7	2
Non-Hodgkin's	283	218	65	174	109	0	61	41	42	88	44	7
Unknown Primary	100	88	12	52	48	0	0	0	0	0	2	98
Other/III-Defined	25	21	4	11	14	0	3	1	4	5	2	10

This report EXCLUDES CA in-situ cervix cases, squamous and basal cell skin cases, and intraepithelial neoplasia cases. Source: AHCI Cancer Registry

Accredited by the American College of Surgeons Commission on Cancer

The American College of Surgeons Commission on Cancer (CoC) is a consortium of professional organizations dedicated to improving survival and quality of life of patients with cancer through standard setting, prevention, research, education and the monitoring of comprehensive care.

Over 50 leading cancer care organizations, including the American Cancer Society, are partnered with the CoC on patient-centered initiatives. Across the United States, more than 1,500 cancer programs are CoC accredited, with more than 70 percent of patients with cancer in the nation receiving their care at CoC-accredited programs. AdventHealth has been a continually accredited CoC program since 1989, demonstrating an important commitment to providing all patients with access to services they need, from diagnosis through treatment, rehabilitation and survivorship care.

The National Cancer Database (NCDB) collects data from CoC-accredited cancer programs nationwide. The repository allows programs to compare patient characteristics, cancer types, treatment and outcomes with similar programs. The National Quality Forum (NQF) has identified and endorsed quality metrics reported as indicators of quality oncology care. Based on these indicators, the CoC measures cancer program performance with current CoC quality reporting tools – the Cancer Program Practice Profile Reports (CP3R). By comparing adherence to and consideration of standards of care for specific tumor site populations at quarterly Comprehensive Cancer Committee meetings, quality improvement opportunities that aid in diminishing disparities in care are initiated. No patient identifiers are collected in order to generate the CP3R.

Data are collected for breast, colon, rectum, gastric, lung, cervix, ovary, endometrium, kidney and bladder cases. To date, thresholds of compliance with providing or considering specific indicators are in place for breast, colon, rectum, gastric and lung primary tumor sites. The summary report released by the NCDB provides a performance report for AdventHealth compared with national and Florida state results, as well as those of cancer programs in the same CoC category as AdventHealth – Academic Comprehensive Cancer Programs (ACAD). This data is reviewed at quarterly Comprehensive Cancer Committee meetings at AdventHealth Cancer Institute. More information on the CP3R process and CoC accreditation is available at <http://www.facs.org>.

AHCI Cancer Program Practice Profile Reports

Performance Rates

		014 Performance Rates - Percentages				
Site	Measure	CoC Benchmark Compliance Percentage Rate	National	Florida	Same Type CoC Program <small>(Academic Comprehensive Cancer Program)</small>	AdventHealth Cancer Institute
Bladder	BL2RLN - At least 2 lymph nodes are removed in patients under 80 undergoing partial or radical cystectomy (Surveillance)	Not Applicable	92.9	92.2	95	100
Bladder	BLCSTRI - Radical or partial cystectomy; or tri-modality therapy (local tumor destruction/excision with chemotherapy and radiation) for clinical T2,3,4 N0 M0 patients with urothelial carcinoma of the bladder, first treatment within 90 days of diagnosis (Surveillance)	Not Applicable	59.9	47.5	66.3	45.5
Bladder	BLCT - Neo-adjuvant or adjuvant chemotherapy recommended or administered for patients with muscle invasive cancer undergoing radical cystectomy (Surveillance)	Not Applicable	67	67.1	68	50
Breast	BCS - Breast conservation surgery rate for women with AJCC clinical stage 0, I, or II breast cancer (Surveillance)	Not Applicable	64.6	62.8	63.2	61.6
Breast	nBx - Image or palpation-guided needle biopsy (core or FNA) of the primary site is performed to establish diagnosis of breast cancer (Quality Improvement)	80	92.7	89.2	93.1	83.5
Breast	HT - Tamoxifen or third generation aromatase inhibitor is considered or administered within 1 year (365 days) of diagnosis for women with AJCC T1c or stage IB-III hormone receptor positive breast cancer (Accountability)	90	93.8	90.2	93.9	90.2
Breast	MASTRT - Radiation therapy is considered or administered following any mastectomy within 1 year (365 days) of diagnosis of breast cancer for women with >= 4 positive regional lymph nodes (Accountability)	90	90.9	86.5	91.7	96.6
Breast	BCSRT - Radiation is administered within 1 year (365 days) of diagnosis for women under the age of 70 receiving breast conservation surgery for breast cancer (Accountability)	90	91.1	86.7	91.8	96.6
Breast	MAC - Combination chemotherapy is considered or administered within 4 months (120 days) of diagnosis for women under 70 with AJCC T1cN0, or stage IB - III hormone receptor negative breast cancer (Accountability)	Not Applicable	92.9	89.7	92.2	85.9
Colon	ACT - Adjuvant chemotherapy is considered or administered within 4 months (120 days) of diagnosis for patients under the age of 80 with AJCC stage III (lymph node positive) colon cancer (Accountability)	Not Applicable	90.1	82.2	89.6	75.6
Colon	12RLN - At least 12 regional lymph nodes are removed and pathologically examined for resected colon cancer (Quality Improvement)	85	91.4	90.1	93.2	93.5

Source: National Cancer Data Base

AHCI Cancer Program Practice Profile Reports

Performance Rates

Site	Measure	CoC Benchmark Compliance Percentage Rate	National	Florida	Same Type CoC Program <small>(Academic Comprehensive Cancer Program)</small>	AdventHealth Cancer Institute
Rectum	RECRTCT - Preoperative chemo and radiation are administered for clinical AJCC T3N0, T4N0, or Stage III; or Postoperative chemo and radiation are administered within 180 days of diagnosis for clinical AJCC T1-2N0 with pathologic AJCC T3N0, T4N0, or Stage III; or treatment is considered; for patients under the age of 80 receiving resection for rectal cancer (Quality Improvement)	85	89.3	87.4	89.3	94.1
Gastric	G15RLN - At least 15 regional lymph nodes are removed and pathologically examined for resected gastric cancer (Quality Improvement)	80%	58.3	53.1	65.9	75
Kidney	PD1RLN - At least 1 regional lymph node is removed and pathologically examined for primary resected unilateral nephroblastoma (Surveillance)	Not Applicable	94.8	no data	92.2	no data
Lung	10RLN - At least 10 regional lymph nodes are removed and pathologically examined for AJCC stage IA, IB, IIA, and IIB resected NSCLC (Surveillance)	Not Applicable	42.8	38.7	47.4	50
Lung	LNoSurg - Surgery is not the first course of treatment for cN2, M0 lung cases (Quality Improvement)	85%	93	91.9	92.4	97.5
Lung	LCT - Systemic chemotherapy is administered within 4 months to day preoperatively or day of surgery to 6 months postoperatively, or it is considered for surgically resected cases with pathologic lymph node-positive (pN1) and (pN2) NSCLC (Quality Improvement)	85%	93.3	92.8	92.5	95.8
Cervix	CERRT - Radiation therapy completed within 60 days of initiation of radiation among women diagnosed with any stage of cervical cancer (Surveillance)	Not Applicable	78.6	82.8	79.9	90.9
Cervix	CERCT - Chemotherapy administered to cervical cancer patients who received radiation for stages IB2-IV cancer (Group 1) or with positive pelvic nodes, positive surgical margin, and/or positive parametrium (Group 2) (Surveillance)	Not Applicable	89	92.8	89.7	95.2
Cervix	CBRR - Use of brachytherapy in patients treated with primary radiation with curative intent in any stage of cervical cancer (Surveillance)	Not Applicable	74.5	75.9	79.2	93.8
Endometrium	ENDCTR - Chemotherapy and/or radiation administered to patients with Stage IIIc or IV Endometrial cancer (Surveillance)	Not Applicable	83.4	77.3	87.2	91.4
Endometrium	ENDLRC - Endoscopic, laparoscopic, or robotic performed for all Endometrial cancer (excluding sarcoma and lymphoma), for all stages except stage IV (Surveillance)	Not Applicable	75.3	80.5	73.6	71.6
Ovary	OVSAL - Salpingo-oophorectomy with omentectomy, debulking/cytoreductive surgery, or pelvic exenteration in Stages I-IIIc Ovarian cancer (Surveillance)	Not Applicable	72.2	72.7	72.3	70

Source: National Cancer Data Base

Center for Interventional Endoscopy



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2017 HIGHLIGHTS

- Doctors from CIE gave nine scientific presentations at five national and international conferences.
- 5th Annual Orlando Live EUS was the single largest symposium, with 233 delegates from 24 countries attending, and 10 experts from nine countries performing 42 procedures.
- 90 percent abstract-to-manuscript conversion rate for publication in high-impact peer-reviewed clinical journals.
- Six studies were honored and awarded at four national and international conferences.

Since the founding of the Center for Interventional Endoscopy (CIE) in 2012, significant progress has been made in fulfilling its core mission: to provide high-quality clinical care, conduct cutting-edge clinical research, and train the next generation of endoscopists. In 2017, CIE retained its status as the largest-volume endoscopic ultrasound (EUS) unit in North America and is the fourth-largest program globally. Endoscopic retrograde cholangiopancreatography (ERCP) volume exceeded 1,638, and more than 600 endoscopic mucosal resection procedures were performed.

CIE's research portfolio remains robustly vibrant, concluding seven randomized trials in 2017. Currently, fourteen randomized trials and six prospective studies are in progress evaluating cutting-edge endoscopic techniques or novel technologies.

In 2017, CIE moved into the next phase of its mission: initiation of novel procedural services, evaluation of new techniques in clinical trials, and integration of digital technology in endoscopic education. The third space endoscopy program was launched with the performance of per-oral endoscopic myotomy (POEM) procedures.

Center for Interventional Endoscopy

Publications

Bang JY, Hasan M, Navaneethan U, Hawes R, Varadarajulu S. Lumen-apposing metal stents (LAMS) for pancreatic fluid collection (PFC) drainage: may not be business as usual. *Gut*. 2017 Dec;66(12):2054-2056. doi: 10.1136/gutjnl-2016-312812. Epub 2016 Aug 31. PubMed PMID: 27582509; PubMed Central PMCID: PMC5749339.

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Bhatia V, Varadarajulu S. Endoscopic ultrasonography-guided tissue acquisition: How to achieve excellence. *Dig Endosc*. 2017 May;29(4):417-430. doi:10.1111/den.12823. Epub 2017 Mar 22. Review. PubMed PMID: 28140485.

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Njei B, McCarty TR, Varadarajulu S, Navaneethan U. Cost utility of ERCP-based modalities for the diagnosis of cholangiocarcinoma in primary sclerosing cholangitis. *Gastrointest Endosc*. 2017 Apr;85(4):773-781.e10. doi: 10.1016/j.gie.2016.08.020. Epub 2016 Aug 30. PubMed PMID: 27590963.

Navaneethan U, Lourdasamy D, Gutierrez NG, Zhu X, Vargo JJ, Parsi MA. New approach to decrease post-ERCP adverse events in patients with primary sclerosing cholangitis. *Endosc Int Open*. 2017 Aug;5(8):E710-E717. doi: 10.1055/s-0043-102398. Epub 2017 Aug 7. PubMed PMID: 28791317; PubMed Central PMCID: PMC5546902.

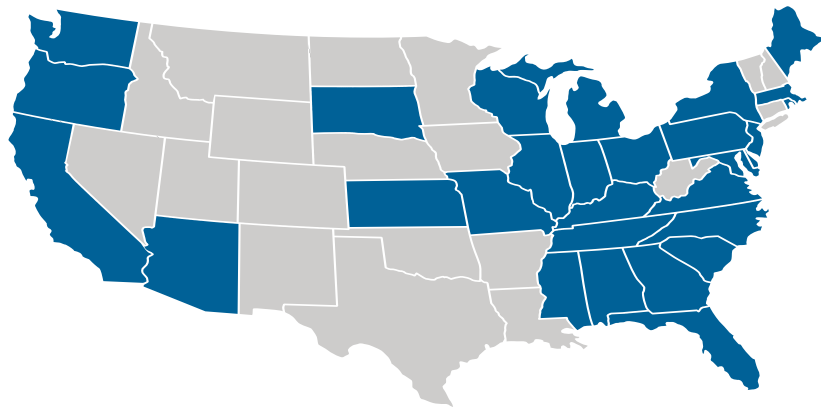
Navaneethan U, Njei B, Zhu X, Kommaraju K, Parsi MA, Varadarajulu S. Safety of ERCP in patients with liver cirrhosis: a national database study. *Endosc Int Open*. 2017 Apr;5(4):E303-E314. doi: 10.1055/s-0043-102492. PubMed PMID: 28393104; PubMed Central PMCID: PMC5383432.

Center for Interventional Endoscopy

Patient Referral Statistics

Patients are referred to CIE for expert care from across the United States and internationally. In 2017, patients were referred from 30 states, two U.S. territories and six countries. More than 50 percent of patients treated at CIE originated from outside the Orlando tri-county area.

8,288
TOTAL
NUMBER OF
PROCEDURES



30
STATES

*Blue states represent patient referrals.



6,797

FLORIDA PATIENTS

Orlando Tri-county: 2,555

Outside Orlando Tri-county: 4,242

109

OUT OF STATE PATIENTS

TWO

PATIENTS FROM
U.S. TERRITORIES

Puerto Rico
Virgin Islands



13

INTERNATIONAL

PATIENTS

Brazil
England
Spain
Venezuela
India
Canada

Oncology Clinical Performance Improvement

Meiling Wu, MSN, RN, BSN, MSN

Project Manager

Clinical Performance Improvement

AdventHealth Cancer Institute

Westley Sheng

Clinical Quality Improvement Coordinator

Clinical Performance Improvement

AdventHealth Cancer Institute

Poster Presentations

Hwang C, Wu M; “Impact of Subspecialization on the Use of Hypofractionated Whole Breast Radiation for the Treatment of Early Stage Breast Cancer”; 27th Annual Interdisciplinary Breast Cancer Conference, Las Vegas; March 11-15, 2017.

Barr L, Burner HM, Wu M; “A Method to Integrate an Institutional Database with Multiple Practice EHRs”; ASCO Quality Symposium Conference, Orlando; February 2017.



Continuing Medical Education

Tumor Boards

A total of 2,863 cases were presented at 393 Tumor Boards in 2017, and 99.5 percent of those presented were prospective. Most Tumor Boards (354) were available through video conference at multiple satellite locations. All tumor boards are available for video conference upon request.

Journal Clubs

Two Head and Neck Journal Club programs, with co-moderators Henry Ho, MD; and Lee Zehngbot, MD; were held on March 30 and Aug. 31. Two Urology Journal Club programs, with co-moderators Vipul Patel, MD; Jeffrey Brady, MD; and Inoel Rivera MD; were held on April 20 and Nov. 9.

Best of American Society of Clinical Oncology (ASCO®) Annual Meeting

The AHCI's Best of ASCO® 2017 Annual Meeting is a two-day program licensed by the American Society of Clinical Oncology.

Program directors: Tarek Mekhail, MD; Louis H. Barr, MD; and Matthew Biagioli, MD. Invited faculty speakers: David J. Adelstein, MD, Cleveland Clinic; Rachid Baz, MD, H. Lee Moffit Cancer Center; G. Thomas Budd, MD, Cleveland Clinic; Steven M. Horwitz, MD, Memorial Sloan Kettering Cancer Center; Thomas Hutson, DO, Charles A. Sammons Cancer Center; John M. Kirkwood, MD, University of Pittsburgh Cancer Institute; Nancy Lee, MD, Memorial Sloan-Kettering Cancer Center; John L. Marshall, MD, Georgetown University Medical Center; Derek Raghavan, MD, Levine Cancer Institute; and Ayalew Tefferi, MD, Mayo Clinic College of Medicine. Faculty speakers from AHCI: Bruce H. Haughey, MBChB; Herbert B. Newton, MD, and Mark Socinski, MD. Held at Hyatt Regency Grand Cypress, Orlando, June 24-25, 2017.

Oncology Grand Series – Werner Auditorium at AdventHealth

August: “Management of Metastatic Disease to the Liver from Colon Cancer” with moderator

J. Pablo Arnoletti, MD, and guest speaker Timothy Pawlik, MD, Ohio State University Wexner Medical Center. Speaker panel: Timothy Pawlik, MD; Sebastian de la Fuente, MD; Ahmed Zakari, MD; John Monson, MD and Timothy Pawlik, MD.

October: “The Role of Stem Cell Transplantation in Multiple Myeloma” with moderator Tarek Mekhail, MD, and speaker Steven Goldstein, MD.

Oncology Nursing

2017 HIGHLIGHTS

- AHCI oncology patients were cared for by 42 oncology-certified nurses (adult-patient care), three certified pediatric oncology nurses, and 16 certified pediatric nurses.
- 84 nurses were certified through the AHCI Chemotherapy Workshops for Oncology Nurses.
- In 2017, 306 nurses were re-certified through 90-minute AHCI Chemo Blitz sessions held 26 times at seven AdventHealth locations.
- AHCI's Oncology Nursing Conference was attended by 135 nurses.
- The National Pediatric Chemotherapy and Biotherapy Provider Course was completed by 23 nurses.

Oncology Inpatient Discharges

BY CAMPUS

Campus	Oncology Inpatient Discharge
AdventHealth Orlando	3,876
AdventHealth Altamonte Springs	966
AdventHealth Apopka	19
AdventHealth East Orlando	389
AdventHealth Winter Park	454
AdventHealth Kissimmee	256
AdventHealth Celebration	1,642
Total	7,602

Source: AdventHealth Research



Patient Support and Community Outreach

Cancer Resource Libraries

A team of 25 to 35 volunteers staff the AHCI Cancer Resource Libraries, providing patients, health care professionals and the community access to more than 400 pamphlets, books and DVDs about cancer and its treatment, side-effect management, support and coping, self-esteem and prevention. The libraries also feature CancerHelp interactive computers with touch-screen navigation for easy access to the latest information from the National Cancer Institute. Educational resources have been expanded to include an online library containing teaching videos for chemotherapy, radiation and surgical patients. The community has access to these resources as well. The library also provides educational materials in support of community events.

Head and Neck Cancer Awareness Week

In April, the Head and Neck Program again participated in the national Head and Neck Cancer Awareness Week to raise awareness and offer risk assessments.



Community Partnerships and Events

AHCI supported and participated in several community health events through key partnerships.

American Cancer Society

- Relay for Life (Central Florida Market)

American Lung Association

- Cars for the Cure
- Fight for Air Climb
- Lung Force Expo Orlando
- Lung Force Run/Walk

Colon Cancer Coalition

- Get Your Rear in Gear 5K

Leukemia & Lymphoma Society

- Man of the Year
- Light the Night

Pancreatic Cancer Action Network (PANCAN)

- PurpleStride Pancreatic Cancer Awareness 5K

Melissa Vosburg Foundation

- Melissa's Race to Battle Brain Cancer

Ongoing Events

- Bone Marrow Transplant Reunion
- City of Orlando Wellness Expo
- Colorectal Cancer Awareness Month – Employee Events
- Corporate and Employee Health Fairs
- AdventHealth Pink Out Campaign
- AdventHealth Pink on Parade 5K



Philanthropy - Generosity Heals

About AdventHealth Foundation Central Florida

AdventHealth is a tax-exempt, community-benefit organization, providing exceptional health care. We create excellence through partnerships with thousands of people who give in different ways. Generosity has been part of our legacy since AdventHealth was founded in 1908. Join us as we continue to dedicate ourselves to the great purpose of providing hope and healing for people in our community and beyond. We invite you to experience how Generosity Heals.

Community support helps strengthen oncology services at AdventHealth and ultimately supports our mission to extend the healing ministry of Christ. In 2017, more than \$2 million was raised to support cancer care through AdventHealth Foundation Central Florida. These gifts were used to develop clinical and translational research initiatives and comprehensive oncology programs, as well as to help uninsured and underserved patients.

Through the support of generous donors and community partners, our Integrative and Creative Arts Therapies Program now has an innovative space on the Orlando campus to support monthly creative art support groups as well as complimentary individual sessions for oncology patients. Our creative arts therapists use live music and art media during the therapy process, improving a cancer patient's overall quality of life and wellbeing – physiologically, emotionally, neurologically and spiritually. This program and build out of this new space were fully funded through philanthropy in 2017.

Community contributions also helped purchase new radiation therapy equipment to support brachytherapy services. Over 3,000 cancer patients received vital financial assistance, and an additional 2,660 women received scholarships for screening mammograms and further diagnostic testing to detect breast cancer. Other generous contributions allowed us to conduct clinical and translational cancer research, offer support through our Cancer Resource Libraries, and facilitate image recovery through our Eden Spas.

2017 Funding Sources

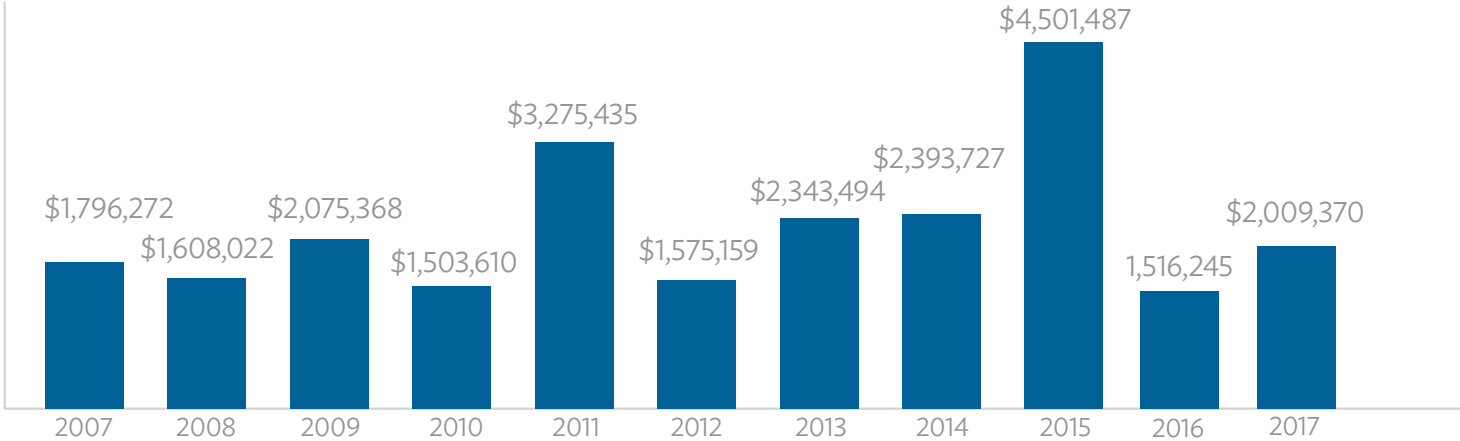
Major Gifts	\$1,435,638.24
1908 Society	\$193,491.76
Annual Fund	\$178,450.70
Events	\$107,470.05
Grants	\$94,319.72
Total	\$2,009,370.47

Source: AdventHealth Foundation Central Florida



Philanthropy - Generosity Heals

Fundraising Trend for AHCI: 2007-2017



Source: AdventHealth Foundation Central Florida

Thank you to our generous donors.

Recognized for Cumulative Giving in 2017

PHILANTHROPIST

Gifts of \$1,000,000+

Dr. and Mrs. Ben and Margaret Guedes
Kids Beating Cancer, Inc.

HUMANITARIAN

Gifts of \$500,000 - \$999,999

Runway to Hope and The NeJame
Family

VISIONARY

Gifts of \$250,000 - \$499,999

The Estate of Homer Allen

CENTURION

Gifts of \$100,000 - \$249,999

DS Services of America, Inc.

LEADER

Gifts of \$50,000 - \$99,999

Delta Delta Delta Alumni Association
Fraternal Order of Eagles, Grand Aerie
Just In Queso Foundation

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Gifts of \$10,000 - \$24,999

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Philanthropy - Generosity Heals

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Gifts of \$1,000 - \$9,999

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Your Legacy

As a donor and friend supporting AdventHealth, you're making an investment in the future of cancer care. Financial contributions directly impact the lives of those battling cancer and assist our expert clinical team by providing necessary cutting-edge technology and personalized care to enhance our clinical outcomes, reduce the cost of health care and lead to more cancer cures. These outcomes are integral on our journey towards becoming a National Cancer Institute designated cancer center.

We hope you will consider a contribution and leave a legacy of hope and healing through AdventHealth. For more information about ways to give, contact AdventHealth Foundation Central Florida at 407-303-2784 or via email to FoundationInfo@adventhealth.com.

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Oncology Nurse Educator

Dr. Lee Zehngebot, Medical Oncology

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