

**UCONN JOHN DEMPSEY HOSPITAL
2018 ANNUAL CANCER PROGRAM REPORT**

**UCONN
HEALTH**





TABLE OF CONTENTS

The Breast Program at Uconn Health	14
Bone Marrow Transplant Program	17
Management of Neurologic Tumors	17
Thoracic Oncology Program	19
Cardiology Oncology Program	20
Multidisciplinary Care for the Diagnosis and Treatment of Melanoma	23
Clinical Trials and Research 2018 Report	29
Dignicap (Cooling Cap System)	33
Analysis of 2017 Cancer Registry Data	35

CANCER COMMITTEE CHAIR

SUSAN TANNENBAUM, MD

Associate Professor, Medicine
Chief, Division of Hematology/Oncology
Medical Director, Carole and Ray Neag
Comprehensive Cancer Center
Cancer Committee Chair

PHYSICIAN MEMBERS

PRAMOD SRIVASTAVA, PhD, MD

Professor, Department of Immunology and
Medicine
Eversource Energy Chair in Experimental Oncology
Director, Carole and Ray Neag Comprehensive
Cancer Center

OMAR IBRAHIM, MD

Director of Interventional Pulmonary and Thoracic
Oncology
Cancer Liaison Physician

CHRISTINA STEVENSON, MD

Assistant Professor Surgery
Medical Director Breast Program
Cancer Committee Surgical Champion

UPENDRA HEGDE, MD

Associate Professor of Medicine
Medical Oncologist, Chief Melanoma and Cutaneous
Oncology; and Head and Neck/Cancer Committee
Cancer Registry Quality Coordinator

ROBERT DOWSETT, MD

Chief of Radiation Oncology
Cancer Committee Radiation Oncologist Champion

M. MELINDA SANDERS, MD

Professor, Department of Pathology and Laboratory
Medicine, Surgical and Cytology Services
Cancer Committee Pathology Champion

ALEX MERKULOV, MD

Associate Professor of Radiology
Section Head of Women's Imaging
Cancer Committee Diagnostic Radiology Champion

JAYESH KAMATH, MD, PHD

Associate Professor, Psychiatry
Cancer Center Psychosocial Champion

BENJAMIN RISTAU, MD

Assistant Professor of Surgery
Urologic Oncology Champion

NON-PHYSICIAN MEMBERS

WANITA THORPE, MBA

Cancer Center Academic Administrative Manager/
Cancer Committee Program Manager

Cancer Registry:

DARLENE PRICE-WOOD, BS, RHIT, CTR
Cancer Registry Manager

CAROLINE LEARY

Cancer Registry Data Technician

Nursing:

DEVON BANDOVERES, MSN, RN, OCN
Oncology Clinical Nurse Specialist

ELLEN SHAW, MBA, MSN, RN, OCN

Associate Director for Clinical Operations

CARYL T. RYAN, MS, RN

Senior Director of Nursing
Inpatient and Oncology Services

Research:

QURATULAIN (ANNIE) ALI, MPH, CCRP, MSH
Clinical Trials Office Supervisor
Cancer Committee Research Coordinator

KATARZYNA RUTKOWSKA, BA, CCRP
Clinical Research Associate

Breast Program:
JULIETTE DUDEK, AAS
Breast Program Administrative Coordinator

Quality Assurance:
LISA HOLLE, PHARMD, BCOP, FHOPA
Associate Clinical Professor/Department of
Pharmacy Practice/Cancer Committee Quality
Assurance Coordinator

CAROLYN GUARINO, MSN, RN
Quality Assurance Specialist

Oncology Support Care Consultation Service:
SARAH LOSCHIAVO, APRN, FNP-C, ACHPN
Nurse Practitioner
Cancer Committee Support Service and Palliative
Care Representative

MARIE ZIELLO, LCSW
Department of Social Work
Cancer Committee Psychosocial Coordinator

Navigation:
WENDY THIBODEAU, MSN, RN, OCN
Nurse Navigator/Cancer Committee Cancer
Conference Coordinator

AMBER TILLINGHAST, BA
American Cancer Society Patient Navigator

Community Outreach:
FRANKLIN UDE, MPH, MAY 2020
Community Outreach Coordinator

RASHEA BANKS, MPH
Community Outreach Coordinator

Nutrition:
THERESA CREAMER, MS, RD, CSO, CDN
Registered Dietician

KERRY COUGHLIN, MS, RD, CSO, CDN
Registered Dietician

Genetics:
JENNIFER STROOP, MS, LGC
Licensed Genetic Counselor

Rehabilitation Services:
KIMBERLY CUBETA-GILEAU, PT
Rehabilitation Services Coordinator
of staff development and clinical education



CANCER COMMITTEE CHAIR - 2018 REVIEW

Cancer care at UConn Health has continued to change and grow over time. What has not changed is our dedication to quality and personalized care. We offer our patients state-of-the-art facilities and technology in our surgical and radiation oncology specialties.

Patients are navigated by our nurse navigators who assist in expediting appointments and access to care from diagnosis through treatment. Additionally, these navigators work in underserved areas impacting on cancer prevention and screening; areas of need in the community.



Susan H. Tannenbaum, MD

Although our facility is state-of-the-art, it is our faculty and staff that make us unique. The multidisciplinary nature which we approach every patient allows for personalized care in terms of our diagnostic and therapeutic interventions.

Subspecialty tumor boards are attended not only by the surgical, radiation and medical oncologists, but also by members of our supportive care service, genetics, plastics, bone, and cardiac experts who together decide on the right treatment for a given patient while attempting to reduce undesired side effects. New technology can be utilized to assist in reducing side effects like the Dignicap program; a cold-cap used to reduce hair loss in patients receiving chemotherapy, and deep inspiration treatments to reduce heart damage during radiation.

Our cardiologists monitor and follow our patients given medications that might damage their heart, bone endocrinologists help prevent bone loss associated with common hormonal agents used in prostate and breast cancer, and our therapists and psychiatrist on-site address issues like anxiety and depression that unfortunately go hand in hand with a cancer diagnosis. Clinical and translational research trials offer our patients new hope as well as an opportunity to change the face of cancer care for the future.

SUSAN H. TANNENBAUM, MD
Associate Professor, Medicine
Chief of the Division of Hematology and Oncology at UConn
Medical Director, Carole and Ray Neag Comprehensive Cancer
Cancer Committee Chair

CANCER LIAISON PHYSICIAN 2018 REVIEW

The Commission on Cancer™ (COC) was established in 1962. Since that time, the role of the Cancer Liaison Physician (CLP) has grown. The foundation and fundamental goal is to ensure that the cancer program is reaching standard of care and perpetually improving the program within.

The use of real time data from the National Cancer Data Base (NCDB) allows the program to compare benchmarks, patient demographics, and treatment modalities regionally and across the country. The Rapid Quality Reporting System (RQRS) dashboard also allows us to ensure that active patients are meeting benchmarks during their treatment phase of care.

Lastly, the Cancer Program Practice Profile Reports (CP³R) provides a review of standards that are set forth by the COC and allows us to compare data year to year.



Omar Ibrahim, MD

I was appointed to the position of CLP in 2016, and since that time we have taken the opportunity to not only improve our rates of compliance in the treatment standards but also provide additional information to key

care providers to improve patient care. One of the first examples of this was reviewing lymph node sampling in early stage lung cancer. We reviewed our internal data, compared it to national standards, and with a few adjustments were able to provide a more effective definitive care.

As the Cancer Liaison Physician at the Neag Comprehensive Cancer Center, I look forward to delivering providers the tools to ensure exceptional care in the years to come.

OMAR IBRAHIM, MD
 Assistant Professor of Medicine
 Director, Interventional Pulmonary and Thoracic Oncology
 Cancer Liaison Physician



UCONN HEALTH'S AMERICAN COLLEGE OF SURGEON'S COMMISSION ON CANCER ACCREDITED CANCER PROGRAM

UConn Health has maintained a continuously accredited American College of Surgeon's Commission on Cancer (ACoS-CoC) cancer program since July 1, 1977, and has one of the oldest continuously accredited ACoS-CoC approved cancer programs in the nation. ACoS-CoC is nationally recognized as the premier cancer therapeutic standard setter and serves as endorsement that a facility servicing cancer patients is providing cancer diagnostics, treatment, and supportive care services of the highest quality, and that all the facility's patients have access to the latest clinical trials and genetic counseling and testing services. The UConn cancer program is approved as an Academic Comprehensive Cancer Program (ACAD). Our cancer program's ACoS-CoC accreditation serves as public validation that each of the UConn medical providers servicing cancer patients are committed to the holistic patient care approach necessary to produce optimal outcomes for the patients they treat.

Our physician providers include board-certified surgical specialists, medical oncologists, radiation oncologists, urologic oncology, gynecology-oncologists, dermatologists, endocrinologists, neurologic-surgeons, pathologists, diagnostic radiologists, pulmonologists, and palliative medicine specialists. Rounding out the medical



staff are oncology certified nurses (OCN®), board-certified oncology pharmacists (BCOP), certified clinical research professionals (CCRP), registered dietitians, board-certified genetic counselors, licensed clinical social workers, professionals expert in cancer prevention and early detection, and palliative care professionals. Multidisciplinary teams will navigate patients and their families through their cancer experience from diagnosis through survivorship.

Cancer services are provided at the Carole and Ray Neag Comprehensive Cancer Center and throughout the UConn Health system.

This link further explains what a CoC accredited program means and how it benefits our patients.

<https://www.facs.org/ff/media/files/quality%20programs/cancer/coc/marketingcocpatientbrochurepressready.ashx>

Our commitment is to growing our service lines with continual focus on improving the services we provide our patients. In 2018 the UConn cancer program implemented many new services and initiatives to further meet the needs of our patients. This includes a collaboration with UConn's Division of Neurosurgery, under the Directorship of Dr. Ketan R. Bulsara and the Preston Tisch Brain Tumor Center at Duke to provide care for patients with central nervous system tumors (brain and spine).

Our new Bone Marrow Transplant Program under the direction of Dr. Jonathan Harrison who was hired in August 2016 to help build the program.

The implementation of a formal Oncology Supportive Care Consultation Service, led by a palliative trained physician and certified nurse practitioner (Michael Kopf, MD; Sarah Loschiavo, APRN, FNP-C, ACHPN) to meet the needs of our patients in both the inpatient and outpatient settings was fully established in July 2018.

Our Breast Cancer Program was successfully re-accredited in April 2018 by the National Accreditation Program for Breast Centers (NAPBC). NAPBC certifies that premier standards of care are available to patients diagnosed with breast cancer and other diseases of the breast. We expanded our multidisciplinary prospective treatment planning cancer conference menu to include a conference dedicated to the management of musculoskeletal cancers (see complete list of multidisciplinary conferences on page 12). In addition to new clinical services, many supportive services have been added to address the psychological and emotional well-being of our patients and their families.

For more information contact
The Carole and Ray Neag Comprehensive
Cancer Center
UConn Health
263 Farmington Avenue
Farmington, CT 06030
Monday – Friday
8 a.m. to 4:30 p.m.
800.579.7822

CANCER TREATMENT SERVICES

Bile Duct Cancer
Bladder Cancer
Bone Marrow Transplant
Brain Cancer
Breast Cancer
Cervical Cancer
Colon Cancer
Endocrine Neoplasia
Endometrial Cancer
Gall Bladder Cancer
Head and Neck Cancers
Hereditary Cancers
Kidney Cancer
Leukemia
Liver Cancer
Lung (Thoracic) Cancer
Lymphoma
Multiple Myeloma
Oral Oncology
Ovarian Cancer
Pancreatic Cancer
Pediatric Cancer
Prostate Cancer
Radiation Oncology
Reconstructive (Plastic) Surgery
Rectal Cancer
Sarcoma
Skin Cancer
Stomach (Gastric) Cancer
Testicular Cancer
Uterine Sarcoma
Vaginal Cancer
Vulvar Cancer

SURGICAL SERVICES

Hepatobiliary
Minimally Invasive & Robotic
(daVinci® Surgical System)
Oromaxillary
Orthopedic Oncology
Otolaryngology, Head and Neck
Plastic
Reconstructive
Thoracic Surgery
Urologic Surgery
Vascular

SYSTEMIC SERVICES

Chemotherapy
Immunotherapy
Biotherapy

RADIATION ONCOLOGY SERVICES

3D Conformal Radiation Therapy
Brachytherapy - High Dose Rate (HDR)
Brachytherapy - Low Dose Rate (LDR)
Computerized Treatment Planning
Electron Beam
External Beam Radiation Therapy
HDR Radiation Therapy System
Hyperthermia
Image-Guided Radiation Therapy (IGRT)
Intensity Modulated Radiation Therapy (IMRT)
Linear Accelerator
Proton Beam
Radiosurgery to Treat Brain Tumors
Robotic Radiosurgery System
Selective Internal Radiation Therapy (SIRT)
Systemic Radioisotopes



DIAGNOSTIC, SUPPORTIVE, & COMPLIMENTARY CARE SERVICES

HISTOLOGY

Full-service laboratory

Routine surgical pathology

Routine oral pathology

Routine and complex special stains: IHC and IF

Turnaround time

- Surgical and oral pathology (routine) - 24 hours
- Verbal reports given on rush basis and include unexpected or malignant results

ELECTRON MICROSCOPY

Nerve, tumors, skin, and platelets can be processed

An out-of-paraffin workup may be helpful for diagnosis

Turnaround time

- Electron microscopy - 48 to 72 hours

CYTOLOGY

Full-service diagnostic laboratory

ThinPrep® and conventional Paps and Reflex HPV testing

One-vial Pap testing with microbiology laboratory

Fine needle aspiration

Non-gynecologic specimens

ThinPrep® imaging system

Extensive quality assurance program

Access to three board-certified cytopathologists for questions and interpretations

Turnaround time

- Cytology - 48 hours

ORAL AND MAXILLOFACIAL PATHOLOGY BIOPSY SERVICE

The only oral pathology biopsy service in Connecticut, this service reviews approximately 4,300 diagnostic specimens annually. Board-certified oral pathologists provide oral diagnostic

services based on the latest research and innovations in healthcare.

General Dentistry: Comprehensive oral assessment and treatment for cancer patients requiring urgent dental care in the Advanced Education in General Dentistry (AEGD) clinic. Clinical trials are available, including studies focused on oral mucositis, a common side effect of cancer treatments

Oral and Maxillofacial Radiology: Dental and oral imaging for assessment and diagnosis of dental conditions that occur before and after cancer treatment

Prosthodontics: Prosthetic reconstruction of oral defects resulting from cancer surgery performed in the prosthodontic clinic

DIAGNOSTIC IMAGING AND INTERVENTIONAL RADIOLOGY SERVICES

Magnetic Resonance Imaging (MRI)

Computed Tomography (CT)

Ultrasound

Digital Radiography

3D Mammography (Tomosynthesis)

Nuclear Medicine Imaging

PET/CT

Breast MRI with MR guided biopsy capability
Advanced imaging techniques for musculoskeletal, body, and neuroradiologic imaging (e.g., DTI, spectroscopy, liver elastography, pelvic floor, and prostate imaging)

Our Interventional Radiology Division performs a full complement of diagnostic and therapeutic services for vascular and body cases. In addition, musculoskeletal interventional services are performed for pain control, biopsy, and ablation.

We also offer low dose lung cancer screening services and a wide array of fluoroscopy and nuclear medicine imaging, including SPECT and PET/CT

ONCOLOGY SUPPORTIVE CARE SERVICE

The Oncology Supportive Care Service provides symptom management and psychosocial support to patients and their families facing a diagnosis of cancer, at any point in the disease course, and regardless of prognosis.

Oncology Supportive Care Consultation Service (Michael Kopf, MD; Sarah Loschiavo, APRN, FNP-C, ACHPN): Acts as an extra layer of support to the primary oncology team. The ambulatory clinic is embedded in the Neag Comprehensive Cancer Center, as part of our approach to fully integrated cancer care. We are further able to provide inpatient consultations to patients admitted to UConn John Dempsey Hospital, to ensure the highest quality of care across healthcare settings. We are led by a palliative trained physician and palliative certified nurse practitioner. Our interdisciplinary team also includes a licensed clinical social worker, oncology dietitians, oncology pharmacist, nurse navigators, certified hospital chaplain, dedicated mental health professionals and an American Cancer Society Patient Navigator.

Clinical Social Services (Maria Ziello, LCSW): Oversee delivery of psychosocial services in the Cancer Center with emphasis on implementation of the distress screening tool and documentation of its use; provides referrals to patients and families to address psychosocial issues and basic needs; reports directly to the Cancer Committee on a regular basis on policies and procedures utilized to deliver above services.

Spiritual Care Services (Catherine Wilcox, M.Div.): Offers spiritual and emotional support to patients, family members, and staff. Collaborates with the medical team to address the unique physical, emotional, and spiritual needs of patients.

American Cancer Society Patient Navigator (Amber Tillinghast): Helps to identify barriers that patients may have in accessing care and serves as an additional resource and support to patients and their loved ones. The American Cancer Society Navigator works in partnership with the cancer clinical team to connect patients to programs and services available in the hospital, through the American Cancer Society and in the community; including transportation, support groups, head coverings, and more.

Oncology Nutrition Services (Kerry Coughlin, MS, RD, CSO, CD-N; Tess Creamer, MS, RD, CSO, CDN): Our team includes registered dietitians who are board-certified specialists in oncology nutrition. They assess individual nutrition needs and counsel patients and families throughout the cancer continuum, with the goal of improving overall health and quality of life. They also provide education to the community regarding evidence based nutrition recommendations to reduce cancer risk.

Clinical Oncology Pharmacy Services (Lisa M. Holle, PharmD, BCOP, FHOPA): Provides evidence-based, patient-centered oncology medication therapy management, including treatment planning and prevention along with management of cancer and drug-related toxicities.

Mental Health Services (Jayesh Kamath, MD; Margaret Moore, LCSW): Addresses psychological issues throughout the cancer continuum and helps patients cope with the unique physical, social, and spiritual challenges related to cancer and cancer treatments.

MULTIDISCIPLINARY CANCER CONFERENCES (TUMOR BOARDS)

The UConn cancer program convenes seven specialty multidisciplinary cancer conferences annually. Multidisciplinary cancer conferences also known as tumor boards are physician-directed conferences where multidisciplinary medical teams and allied healthcare professionals discuss the diagnosis and treatment options of cancer patients. These conferences serve as an augmentation to the formal interdisciplinary consultation process and expedites the development and implementation of the patients personalized treatment plan.

List of Conferences

- Breast
- Gastrointestinal
- Genitourinary
- Gynecology-Oncology
- Head and Neck
- Hematopoietic
- Lung
- Melanoma
- Metastatic Bone
- Musculoskeletal
- Molecular Tumor with JAX labs





2018 BREAST CANCER PROGRAM ACTIVITY

Breast Program NAPBC Reaccreditation

We are pleased to report that our Breast Program received a three-year accreditation from the National Accreditation Program for Breast Centers (NAPBC) after the site visit. NAPBC accreditation is the seal of approval for the UConn Health Neag Comprehensive Cancer Center from the American



*Christina E. Stevenson,
MD, FACS*

College of Surgeons and formally acknowledges our commitment to providing the highest quality evaluation and management of our patients with breast disease. The surveyor commented that the beautiful, large center has excellent resources

to the breast program director Dr. Christina Stevenson. Overall strengths were noted in the dedication, cohesiveness, and enthusiasm of the multidisciplinary group and excellent community outreach. Best practices were identified in breast pathology's comprehensive review of outside cases, the extensive Breast Cancer Resource Guide for patients, and the wealth of oncology support care services which includes a psychiatrist, social work therapist, and psychiatric social worker. In the surveyor's words, "It was a privilege to survey this Center and its wonderful, passionate, dedicated staff." We could not have accomplished this without the help from the Breast Care Team as this was truly a team effort.

Breast Cancer Support Group

The Breast Cancer Support Group at UConn Health allows young breast cancer survivors to engage with other women who have "been there" and understand the challenges that a breast cancer diagnosis brings into everyday life. Survivors can

share stories, concerns, victories, and much more with other women who have also gone through it. The group is intended for women under the age of 45 who have been diagnosed with non-metastatic breast cancer. We welcome those at any point in their cancer survivorship journey, whether in active treatment or years out of treatment.

Susan G. Komen Funded 'Community Breast Navigation in the Greater Hartford Area' Outreach Program

The Breast Program's community health specialist and Susan G. Komen grant funded community breast navigator provide navigation services by educating and assisting underserved women in community health centers in Hartford County to receive mammography screening. The community health specialist and community breast navigator educate patients on the importance of receiving breast screenings, clinical breast exams, and performing self-breast exams. The navigators then assist patients by calling imaging centers to schedule mammogram screening appointments for the patients. Patients are offered free gas cards and bus passes along with the free mammogram, all supported by philanthropic funding. The program has navigated underserved women from the Community Health Center in New Britain and currently at Community Health Services, Inc. in Hartford, First Choice Health Center in East Hartford, UConn Health in East Hartford and West Hartford, and the Unitarian Universalist Church in West Hartford. The program targets underserved female patients who are African American and Latino, uninsured and underinsured ages 40 and older in Hartford County.

Connecticut Breast Health Initiative Funded 'A Brand New You' Survivorship Program

The UConn Cancer Center Breast Program received an education grant for a demonstration project through the Connecticut Breast Health Initiative

(CTBHI). This grant was used to develop and execute a breast cancer survivor program titled “A Brand New You.” The goal is to educate and support survivors in meeting recommendations for nutrition and exercise, which ultimately reduce the risk of recurrence and improve long term survival. The program was offered to all breast cancer patients who completed active therapy with curative intent.

A needs assessment was performed using a web-based tool to improve participation, decrease administrative costs, and facilitate data requisition. Based upon the survey results, an educational program was designed to address the topics of nutrition, exercise, and stress management. The educational series commenced November 14, 2017 and continued through June 2018, took a hiatus for the summer and restarted September 2018 and will continue through November 2018. The sessions have included activities such as cooking demonstrations, nutrition education, yoga, strength training, and mindfulness techniques.

As this educational grant is ongoing definitive outcomes have not at this time been reviewed.

Connecticut Breast Health Initiative Funded ‘Hair Salon Collaboration to Improve Breast Health’ Education Program

The Connecticut Breast Health Initiative funded Hair Salon Collaboration to Improve Breast Health provided in-person education about breast cancer risk factors, breast cancer screenings, and breast cancer risk reduction to increase adherence to screening recommendations and improve mortality rates for women that experience low breast cancer survival rates in Hartford County. Women were also connected to UConn Health’s Community Breast Navigation Program that provides assistance with scheduling mammogram appointments, appointment reminder phone calls, follow-up to

ensure attendance, rescheduling assistance if appointment was not attended, transportation assistance in the form of bus passes and gas cards, and free mammograms for uninsured women to improve mammography screening and access.

UConn Health’s Breast Program fulfilled its grant commitment by conducting 12 breast education sessions at various hair and nail salons in Hartford, West Hartford, East Hartford, Bloomfield, and Manchester. Participants were educated about the importance of receiving mammograms, becoming familiar with their own breasts to know when there is a change, and different tests used to detect breast cancer. Participants were shown X-ray images of breasts affected with cancer and were also able to practice self-breast exams on a breast display. In total, 79 individuals attended the breast health education sessions. Of the 79 individuals that attended the sessions, 50 participants filled out assessment forms before and after the education session.

Before the education session 16 participants were not at all familiar, sort of familiar, or unsure about the signs and symptoms of breast cancer and after the education session 39 participants were very familiar or familiar about the signs and symptoms of breast cancer.

Before the education session 21 participants were not at all familiar, sort of familiar, or unsure about what increases your risk of developing breast cancer and after the education session 39 participants were very familiar or familiar about what increases your risk of developing breast cancer.

Before the education session 22 participants were not at all familiar, sort of familiar, or unsure about how to decrease risk of developing breast cancer

and after the education session 25 participants were very familiar or familiar about how to decrease risk of developing breast cancer.

Before the education session 6 participants were not at all familiar, sort of familiar, or unsure about the importance of receiving breast screening and after the education session 43 participants were very familiar or familiar about the importance of receiving breast screening.

Before the education session 3 participants were not at all familiar, sort of familiar, or unsure about what occurs during a breast screening and after the education session 42 participants were very familiar or familiar about what occurs during a breast screening.

Before the education session 3 participants were not at all familiar, sort of familiar, or unsure about where to get a breast screening and after the education session 42 participants were very familiar or familiar about where to get a breast screening.

Linda Clemens Breast Cancer Foundation Philanthropic Funding

Through the support of generous donors, the Linda Clemens Breast Cancer Foundation continues to fund the Free Mammogram Program that covers the cost of mammograms for women with little or no health insurance. The Foundation has helped hundreds of Connecticut women get access to mammography.

The Foundation awarded funds to support breast cancer patients with costs associated with egg freezing, embryo freezing, ovarian tissue freezing, ovarian suppression and/or donor embryos or eggs so that they may conceive following breast cancer treatment.

In addition, the Foundation sponsored families of women who are undergoing treatment. Many women are unable to prepare for the holidays due to being in treatment. The Foundation fulfilled each wish list in hope to bring holiday cheer.

CHRISTINA E. STEVENSON, MD, FACS
Assistant Professor of Surgery
Breast Cancer Program Director
Cancer Committee Surgery Representative

The Rapid Quality Reporting System

High Standards of Care – National Breast Cancer Care Quality Measures		
Treatment Guidelines	Expected Performance Rate	UConn Rates*
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	90%	97.5%
HT - Tamoxifen or third generation aromatase inhibitor is recommended or administered within 1 year (365 days) of diagnosis for women with AJCC T1c or stage IB-III hormone receptor positive	90%	94%
MAC - Combination chemotherapy is recommended 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	90%	100%
MASTRT - Radiation therapy is recommended or administered following any mastectomy within 1 year (365 days) of diagnosis of breast cancer for women with >= 4 positive regional lymph nodes	90%	100%
NBX - Image or palpation-guided needle biopsy to the primary site is performed to establish diagnosis of breast cancer	80%	90.5%

*Overall Rates Per Commission on Cancer's Cancer Program Practice Profile Reports

BONE MARROW TRANSPLANT PROGRAM

Update on the Program in Hematopoietic Transplant

The core infrastructure for the program in Hematopoietic Transplant at UConn Health is in place as of July 2018. This has been achieved through the combined efforts of Nursing, Pharmacy, the Department of Pathology, and the Division of Hematology and Oncology. Further, this could not have been achieved without the very substantial financial support of Dr. Srivastava, Cancer Center Director, and Dr. Agwunobi, CEO and EVP of UConn Health.



Jonathan Harrison, MD

To date, the program has taken two patients through peripheral blood hematopoietic progenitor collection and storage, followed by administration of supra-lethal doses of anti-neoplastic chemotherapy followed by thawing and re-infusion of autologous hematopoietic cells. One patient was treated for mantle cell lymphoma, and one patient was treated for multiple myeloma. Both patients engrafted promptly at day +10 after re-infusion, and both patients now have normal blood counts. This documents that the stem cell collection and cryopreservation process has been correctly and optimally implemented at UConn Health. Both patients tolerated the transplant well, with no complications nor toxicities which were unanticipated, and neither patient sustained organ damage as a consequence of the transplant. The next step in the program is to complete an additional three autologous hematopoietic transplants by March 2019, so that we will be eligible for inspection and certification by the Foundation for the Accreditation of Cellular Therapy

(FACT). Once FACT certification has been achieved, a broader spectrum of healthcare insurance carriers will be receptive to patients undergoing autologous hematopoietic transplant at UConn Health, and we will move forward with performing allogeneic hematopoietic transplants, and, ideally, CAR-T cell therapy.

JONATHAN HARRISON, MD
Professor of Medicine
Bone Marrow Transplant Program Director

MANAGEMENT OF NEUROLOGIC TUMORS

The increasing frequency of brain tumors, whether primary or metastatic continues to increase. Over the past year, there has been tremendous growth in Neurosurgery at UConn Health. With investments in state-of-the-art technology and the establishment of multidisciplinary patient tailored team care, everything is done to optimize patient surgical/medical care and outcomes focused on quality of life. To this extent, there are two major initiatives thus far.



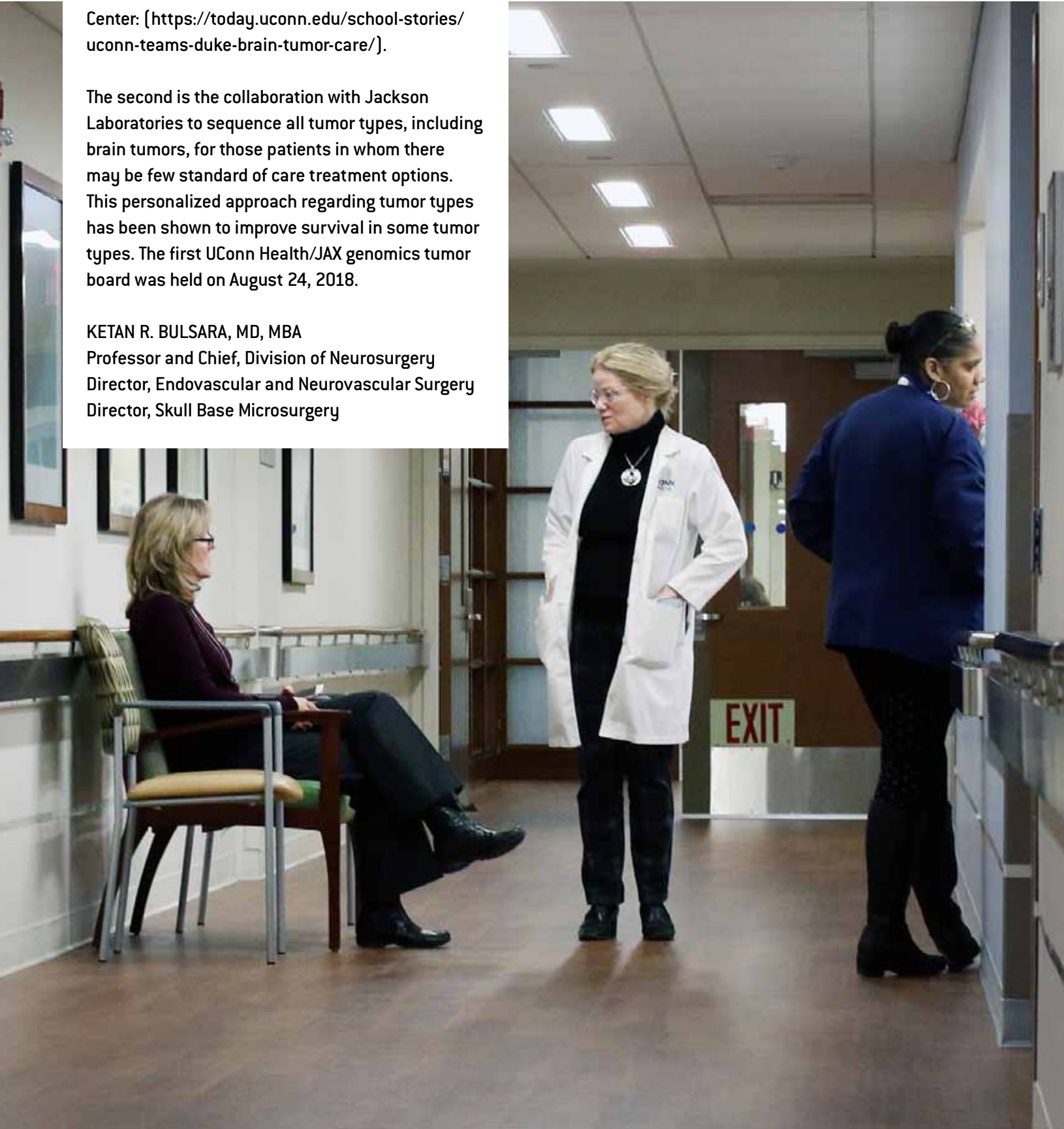
Ketan R. Bulsara, MD, MBA

The first is an effort to gain access to Duke's world renowned Preston Robert Tisch Brain Tumor Center, the UConn Health Division of Neurosurgery is collaborating with Duke's PRTBTC for the co-management of UConn Health's brain tumor patients. This important relationship will provide UConn Health's brain tumor patients access to very specialized brain tumor treatments available at Duke. UConn Health and Duke envision brain tumor services to be provided by Dr. Ketan R. Bulsara's

neurosurgery team at UConn Health with evaluation for additional treatments by Dr. Henry S. Friedman's team at Duke's Preston Robert Tisch Brain Tumor Center: (<https://today.uconn.edu/school-stories/uconn-teams-duke-brain-tumor-care/>).

The second is the collaboration with Jackson Laboratories to sequence all tumor types, including brain tumors, for those patients in whom there may be few standard of care treatment options. This personalized approach regarding tumor types has been shown to improve survival in some tumor types. The first UConn Health/JAX genomics tumor board was held on August 24, 2018.

KETAN R. BULSARA, MD, MBA
Professor and Chief, Division of Neurosurgery
Director, Endovascular and Neurovascular Surgery
Director, Skull Base Microsurgery





THORACIC ONCOLOGY PROGRAM

UConn Health like many institutions provides a multidisciplinary approach to lung cancer care, but our approach is vastly different than most institutions.

At the Neag Comprehensive Cancer Center, our approach is designed around the patient, and not the provider. Our tumor board, nodule clinic, thoracic oncology and radiation oncology clinic all occur simultaneously in order to allow patients one visit to UConn Health and to expedite their care.



Omar Ibrahim, MD

Our state-of-the-art facility provides the latest in innovative diagnostic equipment. This includes, but is not limited to video-guided 3D navigational bronchoscopy technology, endoscopic ultrasound technology, and a newly built hybrid operating

room, which provides real time images during biopsies. These modalities allow us to condense diagnosis and staging into a same day procedure. When this is combined with onsite cytopathology, we can advance patients' care by a few weeks.

While our technology is the best in the area, perhaps our most valuable asset is our people and our pathways for patients that allow for efficient and expedited care. UConn Health's Low Dose Screening Program developed and run by Dr. Electra Kaloudis is a prime example of this. Dr. Kaloudis not only notifies the ordering physician about high-risk abnormal scans, but she also provides a pathway to rapid diagnosis and treatment.

Our patient centered care and service has shifted our stage of diagnosis to 43% for stage I disease. This is treated by surgery or radiation therapy with curative intent.

The next year holds promise to grow and further refine our care as we look to hire more subspecialists in medical oncology, thoracic surgery, and nursing.

OMAR IBRAHIM, MD
Assistant Professor of Medicine
Director of Interventional Pulmonary and Thoracic Oncology/Cancer Liaison Physician

CARDIOLOGY ONCOLOGY PROGRAM

Improvements in cancer therapies over the past several decades have led to a significant improvement in the survival of cancer patients. However, some cancer drugs, most notably anthracyclines and HER2 inhibitors, and radiation therapy to the chest, are known to potentially cause short-term and long-term cardiovascular complications. Cardiotoxicity is the second leading cause of morbidity and mortality among cancer survivors, and anthracycline-induced cardiomyopathy is associated with very poor prognosis. Out of this unmet need, the Cardio-Oncology Program was created at UConn Health in January 2014. This clinic serves cancer patients who have coexistent heart disease, who are at risk for developing cardiotoxicity, or who develop cardiac symptoms or evidence of cardiovascular side effects from cancer treatment.

Traditionally, assessment of heart function by echocardiography has been the primary means of cardiac surveillance in these patients. However, newer techniques such as strain imaging and biomarkers offer better and earlier measures of myocardial injury that precede permanent changes in heart contractile function. Early detection allows for the initiation of cardioprotective medications that can prevent irreversible cardiac damage.



Agnes S. Kim, MD, PhD

Close collaboration between cardiologists, oncologists, and other members of the healthcare team is an integral component of minimizing the cardiotoxic effects of certain cancer drugs.

These multidisciplinary teams assess baseline cardiovascular risk, closely monitor heart function during cancer treatment, and assess and manage long-term cardiovascular risk in the survivorship setting. Members of these teams include cardiologists, oncologists, hematologists, internists, nurses, and pharmacists. Their goal is to improve the cancer patient's longevity and quality of life by minimizing cardiovascular complications that can result from cancer treatment.

AGNES S. KIM, MD, PhD
Assistant Professor of Medicine
Director of Non-invasive Cardiac Imaging and Echocardiography Lab

BLADDER CANCER FACTS

What is bladder cancer?

Bladder cancer is the fourth most common cancer among men and the eighth most common among women in the United States. In 2018, more than 81,000 cases of bladder cancer will be diagnosed and 17,000 people will die from this disease. Bladder cancer arises from cells that line the inside of the urinary bladder called urothelial cells, and most bladder cancers are termed urothelial cancers for this reason.



Benjamin T. Ristau, MD, MHA

Are there risk factors for bladder cancer?

The most common modifiable risk factor for bladder cancer is a history of cigarette smoking. Carcinogens from tobacco smoking are filtered by the kidneys and excreted in the urine. Because urine is

stored in the bladder until we are ready to urinate, these carcinogens come in contact with the bladder lining and increase the risk of bladder cancer.

Other modifiable risk factors include occupational exposures such as certain organic chemicals and aromatic amines used in the dye industry. Recently, the diabetic medication pioglitazone (trade name Actos) was linked to an increased risk of bladder cancer.

Non-modifiable risk factors such as age, sex (bladder cancer is more common among men), chronic bladder infections, and certain genetic conditions (e.g., Lynch syndrome) also increase the chances of developing bladder cancer.

What are the symptoms of bladder cancer?

The most common symptom of bladder cancer is painless blood in the urine (also called hematuria). Other symptoms include irritative voiding symptoms such as urinary frequency and urgency. These latter symptoms tend to be more common among women.

How is bladder cancer diagnosed?

The first step in bladder cancer diagnosis is a cystoscopy. Cystoscopy is an office procedure where a small scope – akin to a catheter with a camera at the tip is inserted through the urethra to examine the bladder. If a bladder tumor is seen, the next step is a transurethral resection of bladder tumor (TURBT). This is an outpatient procedure typically performed under general anesthesia in which the bladder tumor is removed in a minimally invasive fashion through the urethra. There is no cutting or sewing of the skin. The goal of a TURBT is to determine whether a bladder tumor has started to invade through the bladder wall (stage) and how aggressive the bladder tumor is (grade).

How is bladder cancer treated?

There are two categories of bladder cancer. Most bladder cancers (80%) are non-muscle invasive at diagnosis. These “nuisance” tumors are not usually life threatening and typically do not require removal of the bladder. However, non-muscle invasive bladder cancers commonly recur (50-70% recurrence); therefore, lifelong surveillance is

required. The remaining 15-20% of bladder cancers are muscle-invasive at diagnosis. These are treated with a combination of chemotherapy and surgery (bladder removal and urinary tract reconstruction). Our fellowship-trained urologic oncologist performs bladder removal surgery using either a minimally invasive approach with the daVinci® Robotic Surgical System or through a traditional open incision. Urinary tract reconstruction is done in a continent (neobladder, Indiana pouch) or incontinent (ileal conduit) fashion.

Are there any support groups for patients with bladder cancer at UConn?

The diagnosis of bladder cancer can be anxiety provoking and overwhelming. We are very fortunate to have a strong group of patients who meet monthly as a bladder cancer support group. These meetings occur on the first Saturday of the month in the cafeteria at UConn John Dempsey Hospital.

For more information or to attend a meeting, please contact Amber Tillinghast, American Cancer Society Patient Navigator at the Carol and Ray Neag Comprehensive Cancer Center at Tillinghast@uchc.edu.

BENJAMIN T. RISTAU, MD, MHA
Assistant Professor of Surgery Urologic Oncology
Cancer Committee Urology Champion





MELANOMA FACTS

Multidisciplinary Care for the Diagnosis and Treatment of Melanoma

Today, many types of skin cancer are on the rise. One of the most serious types of skin cancer is called malignant melanoma. Melanoma Services at UConn Health provides comprehensive, multidisciplinary diagnosis and treatment for individuals who are newly diagnosed with melanoma or have a history of the disease, or who are at high risk for developing melanoma in the future.



Upendra P. Hegde, MD

We also provide a holistic approach to treatment which incorporates both medical and emotional care and support for each and every patient.

Why a Multidisciplinary Approach Is So Important

Malignant melanoma

is a type of cancer which begins in the skin. Therefore, the diagnosis is made by a complete skin examination. If diagnosed and treated early, melanomas are often curable. However, if left untreated or diagnosed in a later stage, melanomas have the potential to spread to other parts of the body. Because of these ongoing risks and potential complications, optimal care requires coordination of care between a variety of specialties, which may include:

- Dermatology
- Dermatopathology/Surgical Pathology
- Surgery
- Medical Oncology

There are also hereditary syndromes in which a patient can have a family history of melanoma and multiple pigmented lesions on the skin which put

them at a higher risk for developing this form of cancer. These patients require close monitoring to detect any changes as early as possible.

Full Services for the Care and Treatment of Melanoma

Comprehensive services, available through our outpatient area or hospital, include:

- Complete medical and dermatological and surgical evaluation
- Diagnosis of suspicious skin lesions
- Pathological review of skin biopsies by dermatologists, surgical pathologists, and dermatopathologists
- Surgical treatment of melanomas
- Sentinel node biopsy
- Whole body digital photography of pigmented lesions which provide a baseline for early detection of melanoma
- Genetic counseling
- Multidisciplinary follow-up for patients with a history of melanoma
- Adjuvant medical therapy for high-risk melanoma patients
- Standard treatment options for advanced melanoma
- Investigational therapies for melanoma, including tumor vaccines

Education and Information to Prevent Skin Cancer

In addition to diagnosis and treatment of melanoma, an important part of our mission is to educate the public about the warning signs of skin cancer, how to do a self-skin examination, and sun protective measures. To arrange for a consultation with Melanoma Services, contact us and we'll be glad to help.

UPENDRA P. HEGDE, MD

Associate Professor of Medicine
Medical Oncologist, Chief Melanoma and Cutaneous Oncology; and Head and Neck Cancer/Oral Oncology Cancer Committee Registry Quality Coordinator

RADIATION ONCOLOGY FACTS

The Radiation Oncology Department offers a wide range of services including a complete array of external beam and brachytherapy techniques.



Robert Dowsett, MD

We have an active intensity modulated radiation therapy (IMRT) program with comprehensive image guided radiation therapy (IGRT) capabilities, including the use of the Accuray TomoTherapy® System. We routinely use

respiratory management techniques for thoracic, upper abdominal, and breast applications using a sophisticated optical laser system (C-RAD Inc.). We were early adopters of respiratory management techniques for breast radiotherapy using deep inspiration breath hold (DIBH). In addition, we have a robust stereotactic radiotherapy program for intracranial and body applications.

Our brachytherapy program is active in gynecologic tumors and also breast applications with the use of catheter based accelerated partial breast radiation (APBI).

Our Nuclear Medicine and Radiology Departments are active in the use of selective internal radiation (SIRT) for liver tumors and systemic radionuclides for multiple applications.

ROBERT DOWSETT, MD

Chief of Radiation Oncology

Cancer Committee Radiation Oncology Champion

CANCER DIAGNOSTICS – THE FOUNDATION FOR TREATMENT PLANNING

The Department of Pathology is integral to the function of the Cancer Center at UConn Health. It is critical at the time of biopsy or surgical accrual to accurately and in a timely fashion collect and



M. Melinda Sanders, MD

process specimens. As part of this, Pathology has created a research biorepository for fresh frozen tissue to be utilized in basic and clinical research at UConn Health and elsewhere. As our new electronic medical record, HealthOne was

installed, it transformed reporting of all pathology results to a format translatable to all institutions, a format called a synoptic report. This makes our pathology reporting more universal. As part of the multidisciplinary team for cancer care, our pathologists review, present, and discuss the pathologic diagnosis and implications for every patient.

- Participates in multidisciplinary tumor boards
- Banks in the biorepository tumor, non-tumoral tissue and blood from consented patients for future research
- Provides fresh samples through the biobank coordinator for ongoing trials

Supports collaborative research with colleagues in the Cancer Center

M. MELINDA SANDERS, MD
 Professor of Pathology and Laboratory Medicine
 Cancer Committee Pathology Champion

UCONN HEALTH DIAGNOSTIC IMAGING: THE ROLE IN TREATING CANCER

Cancer is the second leading cause of death in the United States after heart disease. It can manifest in more than 200 different forms and attack any cell in the human body. Cancer has an expansive reach with nearly everyone who has been touched by this deadly disease in some capacity.



Alex Merkulov, MD

Diagnostic radiology and interventional treatment services continue to make huge headways in the fight against cancer. X-ray imaging (chest X-rays, bone X-rays, mammography, and barium studies) continues to allow physicians to

see into the human body and identify changes in tissues and organs. Physicians also utilize cross sectional high-definition radiology tools such as computed tomography (CT scan) to create 3D images of a potentially affected area of the body and help identify the exact location and size of tumors, equating to a more accurate diagnosis and treatment.

Magnetic resonance imaging (MRI) is another advanced imaging tool used by physicians to get a clearer picture of a potential cancer. MRI is used to stage a cancer, which can affect the treatment a patient will undergo to cure the disease.

Radiology continues to improve cancer diagnosis and treatment. Today, physicians are able to use radiology to identify the properties and growth of foreign cells and cancerous tumors, treat the patient and monitor a patient's treatment. This advanced care has given patients a chance for a longer and healthier life.

What is the best test to diagnose cancer?

There is no single test that alone can accurately diagnose cancer. The complete evaluation of a patient usually requires a thorough history and physical examination, laboratory tests, and diagnostic imaging. Effective imaging, along with laboratory tests, can confirm the disease, monitor the disease's progress, and help plan and evaluate the effectiveness of treatment. UConn Health offers the latest state-of-the-art cancer diagnostic imaging technology, which includes X-ray imaging, ultrasound, CT, MRI, and PET/CT.

How is diagnostic imaging used for cancer treatment?

Diagnostic imaging is the process of producing anatomic images of the human body systems and organs. Imaging is used to:

- Detect cancer
- Determine whether the cancer has spread
- Assess the effectiveness of a cancer treatment plan
- Identify re-staging of an existing cancer
- Imaging may also be used when performing biopsies and other surgical procedures

What screening and wellness testing is offered at UConn Health?

- Breast Cancer Screening
- Cardiac (Heart) Screening
- Carotid Artery Screening
- Colorectal Cancer Screening
- Lung Cancer Screening

What are the subspecialties for diagnostic radiologists at UConn Health?

A radiologist, through extensive clinical work and related research, may also specialize in one or more radiology subspecialties, which include:

- Breast Imaging
- Thoracic and Cardiovascular Radiology
- Emergency Radiology
- Gastrointestinal (GI) Radiology
- Genitourinary (GU) Radiology
- Head and Neck Radiology
- Musculoskeletal Radiology
- Neuroradiology
- Pediatric Radiology
- Interventional Radiology
- Nuclear Radiology

UConn Health Diagnostic Radiology is committed to providing outstanding patient care by combining excellence in clinical imaging, research, and educational programs with state-of-the-art technology. Our team of medical professionals conducts more than 30,000 studies each year, maintaining the highest standards of clinical excellence provided in a compassionate, caring environment. If you or a family member would like to have your diagnostic radiology services done at UConn Health, simply talk to your doctor when the referral is made.

ALEX MERKULOV, MD

Associate Professor of Radiology
Section Head of Women's Imaging
Cancer Committee Diagnostic Radiology Champion



GENETIC COUNSELING/RISK ASSESSMENT

Genetic counseling and testing services are provided by our two genetic counselors with the Neag Comprehensive Cancer Center's Hereditary Cancer Program. Our program follows recommendations from the National Comprehensive Cancer Network for hereditary cancer risk assessment.

What is genetic counseling?

This comprehensive service includes reviewing personal and family medical history to better determine cancer risk.

Pre-test counseling typically includes the following:

- Collection of a comprehensive family history
- Evaluation of a patient's cancer risk
- Discussion of the risks, benefits, and limitations of genetic testing



Jennifer Stroop, MS, LGC

Did you know that most cancers are not inherited?

Hereditary cancers are rare. For example, approximately 10% of breast cancers are linked with a mutation (or altered gene) that can run in families. These high-

risk families may include individuals with ovarian cancer, pancreatic cancer, and breast cancer diagnosed under the age of 45.

Did you know that genetic testing has changed since 2012?

Patients who had genetic testing prior to 2012 will often qualify for "updated" genetic testing. Our testing technology has expanded over the years. In 2012, our testing routinely analyzed two genes (BRCA1 and BRCA2). Our current testing technology now includes over 25 rare genes linked to hereditary cancer syndromes.

Did you know that more patients are eligible for genetic testing for hereditary breast and ovarian cancer?



Connor Linehan, MS

The National Comprehensive Cancer Network (NCCN) recently expanded the criteria for offering genetic testing for hereditary breast and ovarian cancer. Testing criteria (version 1.2019) now includes the following:

- Personal history of male breast cancer
- Personal history of pancreatic cancer
- Personal history of metastatic prostate cancer
- Personal history of ovarian cancer
- Personal history of breast cancer diagnosed at age 45 or younger

Genetics can often seem scary and confusing. Our goal is to help translate current technology and information to help empower patients and their families.

JENNIFER STROOP, MS, LGC
Licensed Genetic Counselor
Department of Genetics and Genome Sciences
Cancer Committee Genetic Counseling Representative

CONNOR LINEHAN, MS
Genetic Counselor
Department of Genetics and Genome Sciences

CLINICAL TRIALS AND RESEARCH 2018 REPORT

The Clinical Trials Office within the Carole and Ray Neag Comprehensive Cancer Center is focused on supporting high-quality cancer research and thus help us promote better care for cancer patients at UConn Health. The staff consists of qualified, trained and certified professionals who are committed to assisting in the planning, development, implementation, and regulatory oversight of all phases of cancer clinical trials.



Pramod Srivastava, PhD, MD

The office was created under the medical directorship of Pramod K. Srivastava, PhD, MD, and director of the Cancer Center and provides a dedicated team to enable Cancer Center faculty to bring to UConn Health, innovative treatment

options that otherwise would not be available to cancer patients. The Clinical Trials Office actively partners with various cancer cooperative groups, pharmaceutical firms, and other academic centers to bring revolutionary cancer research studies to UConn Health. By supporting clinical research, the office aids UConn Health to meet its goals of excellence in patient care, education, and research. It also engages with other cancer research programs within UConn Health to reach out to the community to educate patients about clinical trials, create awareness on cancer prevention, and increase patient participation in clinical trials.

Our early stage Phase I program was recently developed to provide novel treatment options to our patients diagnosed with stage III/IV cancer. We currently have one Phase I study currently opened to patient accrual at UConn Health. There are other Phase II and III studies opened as well at UConn Health.

Current Phase I Clinical Trials Opened to Accrual Phase I Study of Oncolmmunome for the Treatment of Stage III/IV Ovarian Carcinoma (NCT# NCT02933073)



Quratulain (Annie) Ali, MPH, CCRP, MSHS

The U.S. Food and Drug Administration (FDA) has approved our investigational drug application for this clinical study at UConn Health for patients with advanced stage (stage III or IV) ovarian cancer. (NCT# NCT02933073) Patients

shall receive the standard of care treatment including surgery and chemotherapy, followed by a personalized cancer vaccine, which will be developed for each patient. Blood and cancer samples will be obtained from each patient at the time of surgery, and shall be used to generate and compare the genomic information in each patient's cancer. Personalized vaccines will be made on basis of the genetic differences between the blood and cancer samples of each patient. The patients shall receive the vaccines by an injection in an outpatient setting, once every month for 6 months.

The study is estimated to enroll a total of 15 patients and currently a total of 5 patients have been enrolled to the Tissue and Blood Phase of the study. We anticipate to have our first patient enrolled to the vaccine and follow-up phase of the study by end of November 2018.

To learn more about this study please visit: <https://clinicaltrials.gov/ct2/show/NCT02933073?term=cancer&recrs=ab&cntry=US&state=US%3ACT&city=Farmington&rank=1>

Other Studies Currently Open to Accrual

S1207, "Phase III Randomized, Placebo-Controlled Clinical Trial Evaluating the Use of Adjuvant Endocrine Therapy +/- One Year of Everolimus in Patients with High-Risk, Hormone Receptor-Positive and HER2/neu Negative Breast Cancer (NCT# NCT01674140)"

Everolimus is a drug currently approved for the treatment of patients with advanced or metastatic kidney or breast cancer. It is considered investigational for non-metastatic breast cancer patients. Estrogen can cause the growth of breast cancer cells. Hormone therapy using tamoxifen citrate, goserelin acetate, leuprolide acetate, anastrozole, letrozole, or exemestane, may fight breast cancer by lowering the amount of estrogen the body makes. Everolimus may stop the growth of tumor cells by blocking some of the enzymes needed for cell growth. It is not yet known whether hormone therapy is more effective when given with or without everolimus in treating breast cancer. This randomized Phase III trial studies how well giving hormone therapy together with or without everolimus work in treating patients with breast cancer. Patients will get hormone treatment with either everolimus or with placebo (a pill with no medication). The combination of hormone-treatment and everolimus is experimental in patients with breast cancer.

The study is estimated to enroll a total of 6 patients at our site and we have enrolled 1 who is currently in the follow-up phase of the study.

To learn more about this study please visit:
<https://clinicaltrials.gov/ct2/show/NCT01674140>

A Prospectively Designed Study to Assess the Relationship between Tumor Mutation Burden and Predicted Neo-antigen Burden in Patients with Advanced Melanoma or Bladder Cancer Treated with Nivolumab or Nivolumab plus Ipilimumab (CA209-260) (NCT# NCT02553642)

Nivolumab is approved for treating several types of cancer, including melanoma. Ipilimumab is approved for treating melanoma, but its use for treating bladder cancer is considered investigational. Both drugs are given intravenously (by vein). This is a Phase II trial that studies to understand why some patients with advanced melanoma and bladder cancer respond to the immunotherapy while others do not. The immunotherapy drugs being assessed in this study are nivolumab and ipilimumab. This study is currently open to the bladder cohort only.

The study is estimated to enroll a total of 45 patients at our site and we have enrolled 5 patients where only one remains on study.

To learn more about this study, please visit:
<https://clinicaltrials.gov/ct2/show/NCT02553642>

PRAMOD SRIVASTAVA, PhD, MD
Professor of Immunology and Medicine
Eversource Energy Chair in Experimental Oncology
Director, Carole and Ray Neag Comprehensive
Cancer Center

QURATULAIN (ANNIE) ALI, MPH, CCRP, MSHS
Clinical Trials Office Supervisor
Cancer Committee Clinical Research Coordinator



BONE MANAGEMENT

The goal of the Cancer and Bone Health Clinic is to offer comprehensive bone health evaluation and treatment to individuals receiving medical therapies for cancer that may increase the risk of



Pam Taxel

bone loss and debilitating fractures such as those of the spine and hip. These include chemotherapies, immunotherapies, and hormonal manipulation for common cancers such as those of the breast, ovary, prostate, and lung, among others. Full evaluation

including imaging and laboratory assessment will be completed, and a comprehensive treatment plan will be devised for each patient.

In addition, patients on long-term medical therapies for bone loss or cancer that has spread to the bone will be evaluated by a multidisciplinary team for long-term complications such as osteonecrosis of the jaw and atypical femoral fractures.

PAM TAXEL

Professor of Medicine, Division of Endocrinology and Metabolism, UConn Health
UConn Musculoskeletal Institute

PATIENT NAVIGATION PROGRAM

Patients face multiple issues that can radiate to all areas of their lives when diagnosed with cancer. Navigators at the Neag Comprehensive Cancer Center assess for barriers to care that with early intervention results in timely diagnosis and treatment. Navigators help guide and coordinate patient's care during this very difficult time. The navigation program has 4 nurse navigators, an American Cancer Society patient navigator and 2 lay community navigators. Navigators are assigned to patients either from screening for cancer or at diagnosis through survivorship or end of life care. Navigators provide education, resources, coordination of care and support throughout the cancer continuum.

SURVIVORSHIP

Patients continue to encounter many challenges as they complete their treatment that include physical, emotional, and even financial issues. The survivorship program at the Neag Comprehensive Cancer Center was built to ensure patients have the resources they need to transition to survivorship.

Navigators and the patient's team work on putting a survivorship care plan together that includes diagnosis and treatment, follow up plan, late and long-term effects of treatment, and counseling on lifestyle and behaviors that affect their ongoing health. The care plan is reviewed with all patients who have completed primary treatment with curative intent for any stage I-III cancers.

CANCER PREVENTION AND EARLY DETECTION: OUTCOMES OF 2018 ACTIVITIES

A needs assessment was performed using a web-based tool to improve participation, decrease administrative costs, and facilitate data requisition. Based upon the survey results, an educational program was designed to address the topics of nutrition, exercise, and stress management. The educational series commenced November 14, 2017 and continued through June 2018, took a hiatus for the summer and restarted September 2018 and will continue through November 2018. The sessions have included activities such as cooking demonstrations, nutrition education, yoga, strength training, and mindfulness techniques.

As this educational grant is ongoing definitive outcomes have not at this time been reviewed.

Dignicap® (Scalp Cooling System)

The DigniCap® program is a new program that is currently available to breast cancer patients as an optional scalp-cooling therapy to reduce a patient's chance of hair loss from chemotherapy treatments. The DigniCap® can help to significantly reduce the risk of hair loss in breast cancer patients who choose it as part of their treatment plan. Hair loss is a negative side effect of chemotherapy that causes much anxiety and depression, and in some cases can even deter women from chemotherapy altogether. It consists of a snug-fitting silicone

cooling cap connected to a cooling unit that reduces the temperature of the scalp, reducing the hair loss effects of chemotherapy. The technology's arrival was spearheaded by donations from UConn Health professors William B. White, MD, and Nancy M. Petry, PhD, of the Pat and Jim Calhoun Cardiology Center and grant funding awarded to the UConn Foundation by the Connecticut Breast Health Initiative.

UCONN HEALTH'S CANCER REGISTRY

What Is a Cancer Registry?

A cancer registry is a standardized data system used to collect and analyze data on patients treated with cancers and central nervous system neoplastic diseases. The UConn's Commission on Cancer approved cancer registry database contains clinical and treatment data for patients newly diagnosed at UConn or/and who or treated with first course cancer therapy at UConn since January 1, 1989. The cancer registry contains data rich for analysis and outcomes assessment for 20,481 patients. Post completion of their first course treatment, patients are monitored for life. Surveilling patients for outcomes enables providers to measure the effectiveness of the treatments administered, and may help ensure that patients are receiving appropriate post cancer treatment medical follow-up

What Data Are in the Cancer Registry?

Our cancer registry database includes data of patient demographics, social and family history, tobacco usage, primary cancer site, histologic tumor type and grade, cancer stage at diagnosis, cancer site specific prognostic indicators, first course treatment information, and subsequent treatment for patients who might experience recurrent disease/progression, and annual follow-up information including vital status and disease status.

How Is Cancer Registry Data Used?**Hospital Uses**

- Cancer therapies are administered in accordance with evidence-based treatment guidelines and national quality of care standards. The hospital uses cancer registry data to confirm adherence to national quality of care standards and to detect if improvements are needed.
- Monitor UConn patient clinical outcomes.
- Monitor the cancer program's patient population to plan patient services and initiatives.
- Can help inform planning for research projects and prevention and screening activities

Connecticut State Cancer Registry

- CT state law requires that all CT cancer diagnosing and treating facilities to report cancer registry data to the CT state cancer registry. The state registry uses these reported data to measure statewide cancer prevalence, and the CT state epidemiologists analyze the data to plan statewide cancer education initiatives, and prevention and early detection programs that can be customized for targeted communities in effort to reduce/alleviate cancer burdens for all CT residents. The state cancer registries also report de-identified

cancer registry data to the Centers for Disease Control's (CDC) National Program of Cancer Registries (NPCR), and some report to the National Cancer Institute's (NCI) Surveillance, Epidemiology, and End Results (SEER) Program. The SEER and NPCR data are the basis for the official federal statistics on cancer incidence and cancer mortality statistics.

National Cancer Database

- The National Cancer Database (NCDB) is a clinical oncology database that is jointly operated by the American College of Surgeon's Commission on Cancer (ACoS-CoC) and the American Cancer Society (ACS). ACoS-CoC accredited hospitals are required to report cancer registry data to the NCDB annually. The data are used to evaluate and track prevalence as well as assess patient treatment patterns and outcomes. The NCDB also contains many online data tools to assist the CoC cancer programs to use to monitor that patients receiving first course treatment are receiving evidenced based treatments in the most optimal time frames. Programs can measure their individual performance against local and national performance of other CoC accredited hospitals.

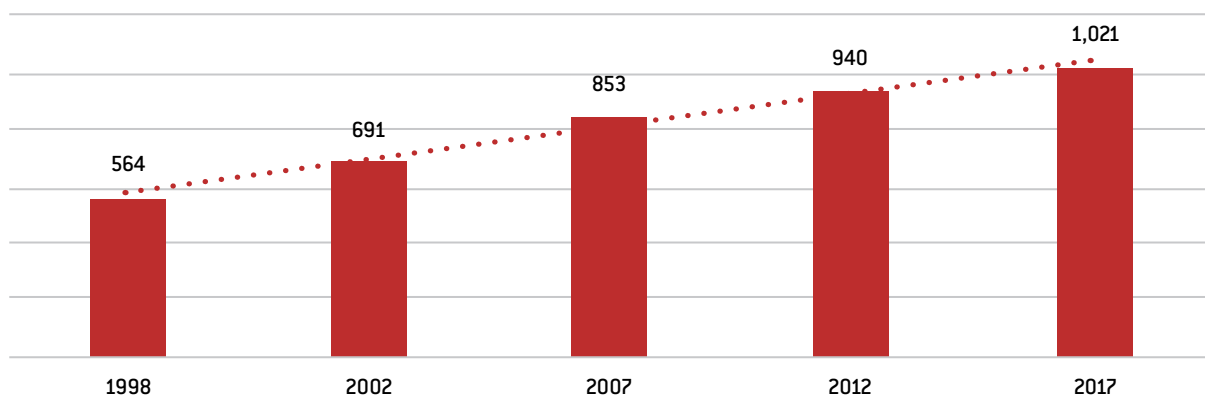
THE CANCER DATA MANAGEMENT TEAM

Cancer data management professionals, known as Certified Tumor Registrars (CTRs) prepare clinical summaries of patients newly diagnosed with cancer and benign CNS tumors. The CTRs convert complex clinical data into a coded format in accordance with national standardized cancer data collection rules. The standardization of these data and the coded format allows for the easy analysis of cancer prevalence and patient clinical outcomes. This allows epidemiologists to monitor trends and plan interventions and allows physicians and healthcare providers to evaluate treatment practices locally, regionally and nationally to assess and correct any potential negative variations in patient outcomes. The cancer registry's clinical summaries are updated as warranted to reflect the patient's cancer experience from diagnosis through survivorship.

ANALYSIS OF 2017 CANCER REGISTRY DATA

The certified cancer registry staff added an additional 1,660 cases in the database for the 2017 cancer registry case accession year. Of that number, 1,021 cases were patients who were newly diagnosed and/or receiving first course therapy at UConn for a newly diagnosed cancer or central nervous system tumor. The top 10 primary sites for newly diagnosed cases were melanoma (24%), breast (10.3%), lung (7.3%), prostate gland (7%), corpus uteri (6%), meninges (4.6%), colorectal (4.5%), bladder (4%), hematopoietic malignancies (4%), and thyroid (3.1%). See data graph displays below of 2017 analysis. In keeping with the Commission on Cancer's requirement for lifetime patient follow up which requires the hospital to maintain a minimum of 80% patient follow-up rate for all applicable patients and a 90% rate for applicable patients diagnosed within the last five years the cancer registry staff consistently maintained rates well above minimum requirements. Assessment of follow-up rates at the time of this report showed a 95.4% overall patient follow-up rate and 97% rate for patients diagnosed within the last five years.

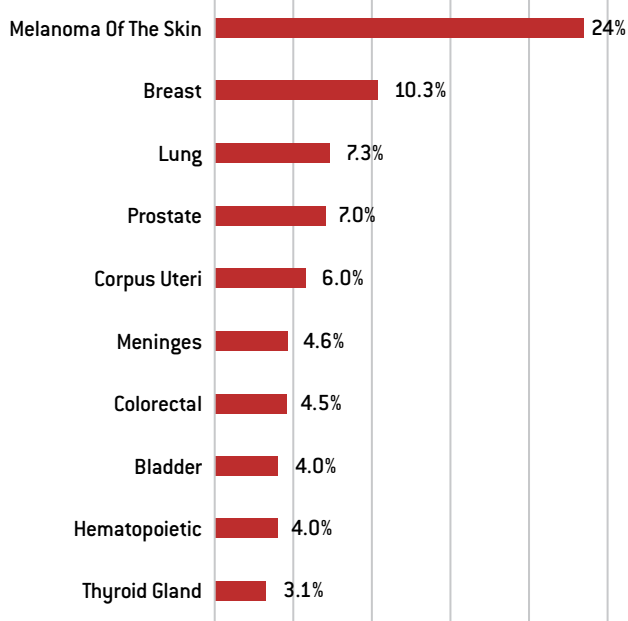
20 YEAR REVIEW OF NEWLY DIAGNOSED CANCER CASELOAD FOR THE UCONN HEALTH CANCER PROGRAM (FIVE YEAR INTERVAL)



The UConn Cancer Program cancer registry database includes data on cancer patients diagnosed back to January 1, 1989. Review of 20 years of cancer registry data demonstrated a 47% increase in the new cancer patient load since 1998.

TOP 10 2017 REPORTABLE PRIMARY TUMOR SITES

The program also collects benign and borderline tumors of central nervous system and tumors of intracranial structures



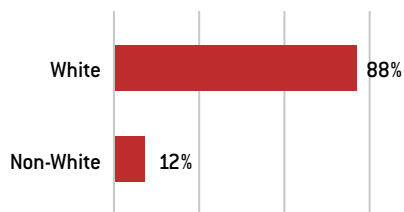
AMERICAN JOINT COMMITTEE ON CANCER (AJCC) STAGE AT DIAGNOSIS FOR 2017 ANALYTIC CASES

Primary Site	Total #	Stage 0	Stage I	Stage II
Melanoma Of The Skin	246	58.0%	28.1%	6.9%
Breast	105	20.0%	46.6%	20.0%
Bronchus/Lung	74	1.0%	43.2%	8.0%
Prostate Gland	71	0.0%	15.5%	49.3%
Corpus Uteri	59	0.0%	66.1%	8.5%
Meninges	47	0.0%	0.0%	0.0%
Colorectal	46	17.3%	26.1%	19.6%
Bladder	41	24.4%	46.4%	14.6%
Hematopoietic/ Reticuloendo System	40	0.0%	0.0%	0.0%
Thyroid Gland	32	0.0%	60.6%	21.2%

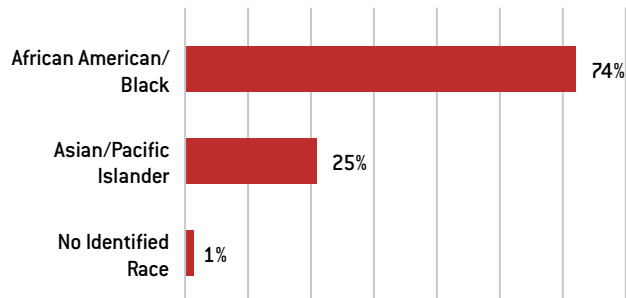
Primary Site	Stage III	Stage IV	Stage N/A	Stage Unknown
Melanoma Of The Skin	2.4%	1.2%	0.0%	3.4%
Breast	7.6%	2.9%	0.0%	2.9%
Bronchus/Lung	18.9%	28.9%	0.0%	0.0%
Prostate Gland	14.1%	21.1%	0.0%	0.0%
Corpus Uteri	6.8%	5.1%	1.6%	11.9%
Meninges	0.0%	0.0%	100.0%	0.0%
Colorectal	23.9%	13.1%	0.0%	0.0%
Bladder	0.0%	7.3%	0.0%	7.3%
Hematopoietic/ Reticuloendo System	0.0%	0.0%	100.0%	0.0%
Thyroid Gland	12.1%	3.0%	0.0%	3.1%

DEMOGRAPHICS OF 2017 NEW CASE POPULATION (WHITE, AFRICAN AMERICAN, HISPANIC, OTHER)

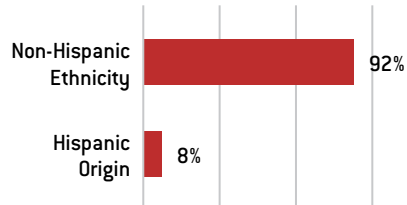
Race



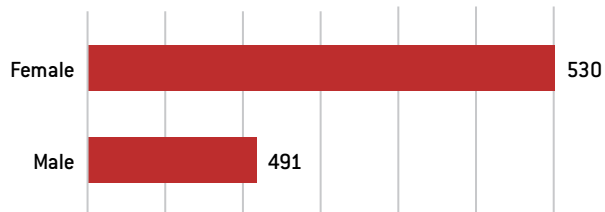
Non-White Population



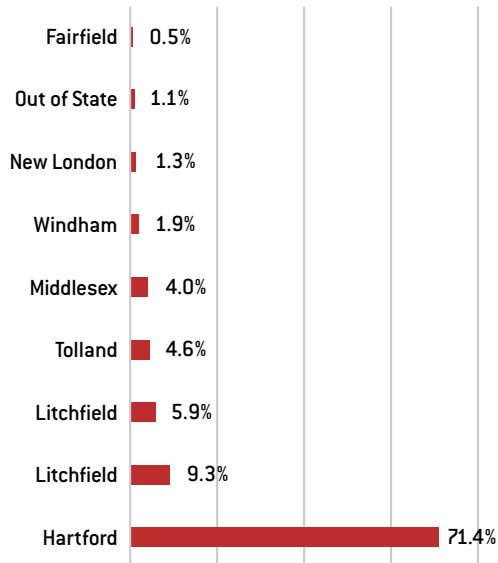
Hispanic Ethnicity



2017 Analytic Cases By Gender



2017 Analytic Cases CT County of Residence



2017 ANALYTIC MELANOMA CASES BY AJCC STAGE

Melanoma cases continues to be the number one primary site cancer diagnosed and/or receiving first course treatment at the UConn Health via UConn's large Cutaneous (Skin) Oncology Center and Melanoma Program. Patients, especially high risk patients, are carefully surveilled for skin cancers and this has ensured that the vast majority of melanoma cases are caught in the very earliest stages when the cancers are curable.

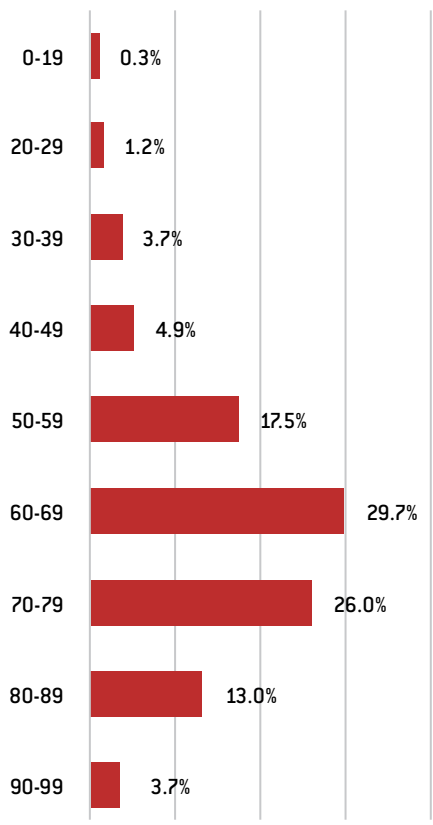
Primary Site	Total Cases	Stage 0	Stage I
Melanoma	246	58.0%	28.1%

Stage II	Stage III	Stage IV	Unknown Stage
6.9%	2.4%	1.2%	3.4%

Age at Presentation

It has been long established that the number one risk factor for developing melanoma is skin exposure to ultraviolet light both sun exposure and exposure in tanning beds and that people with fair skin (whites) are at the highest risk for development of melanoma; but studies also shows a nexus to skin aging. Ninety percent of UConn's 2017 newly diagnosed melanoma cases were in patients fifty and over with seventy-two percent of these patients being sixty years of age and older.

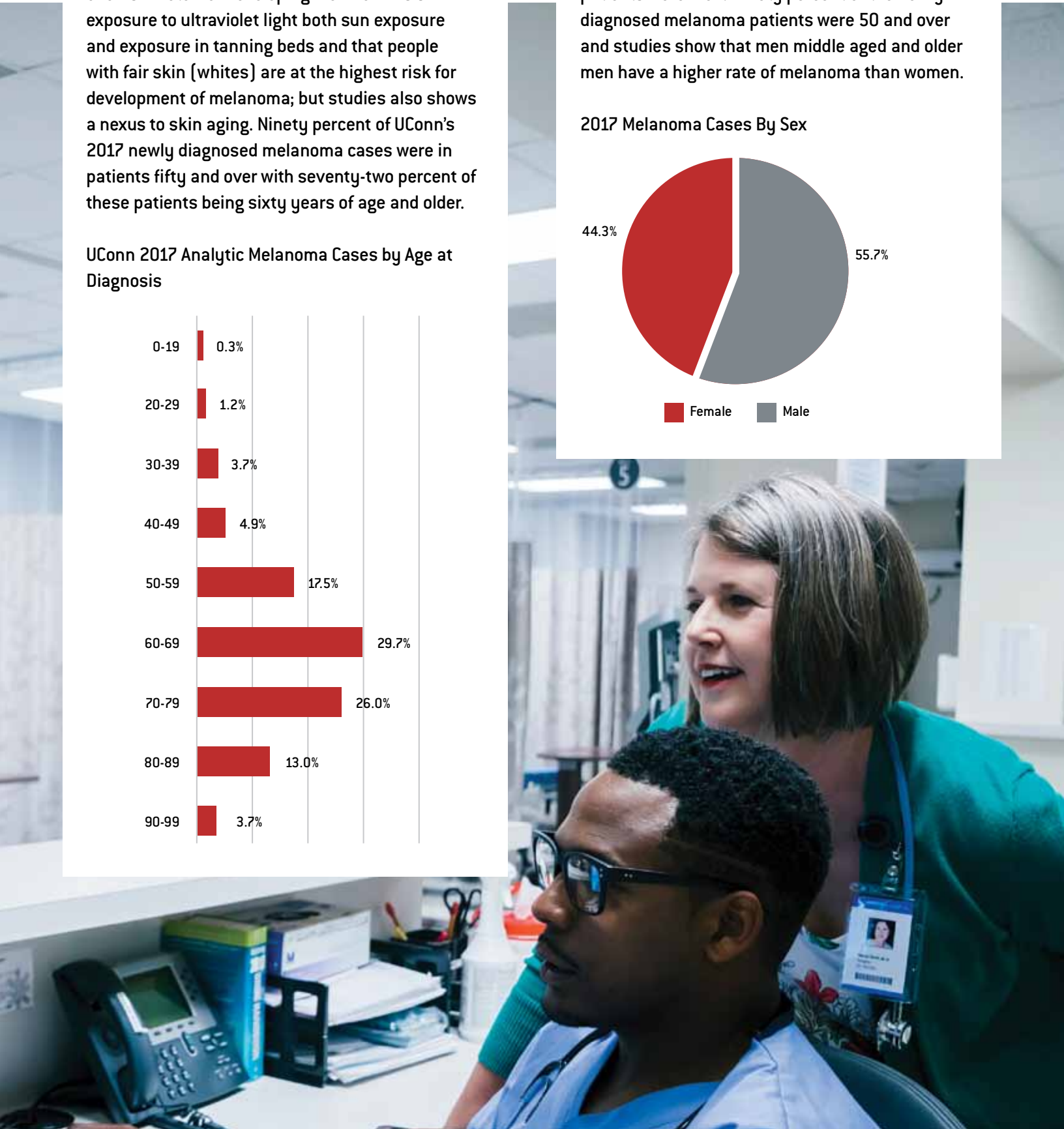
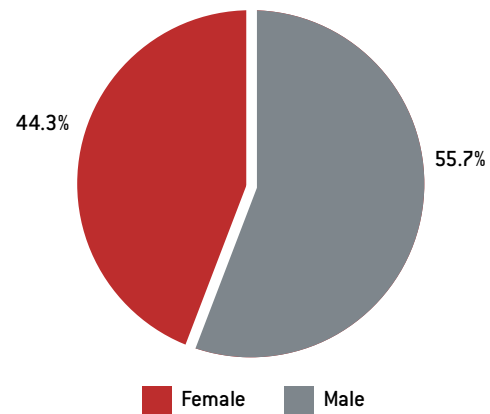
UConn 2017 Analytic Melanoma Cases by Age at Diagnosis



New Melanoma Cases By Patients By Sex

The majority of UConn's newly diagnosed melanoma patients were men. Ninety percent of the newly diagnosed melanoma patients were 50 and over and studies show that men middle aged and older men have a higher rate of melanoma than women.

2017 Melanoma Cases By Sex

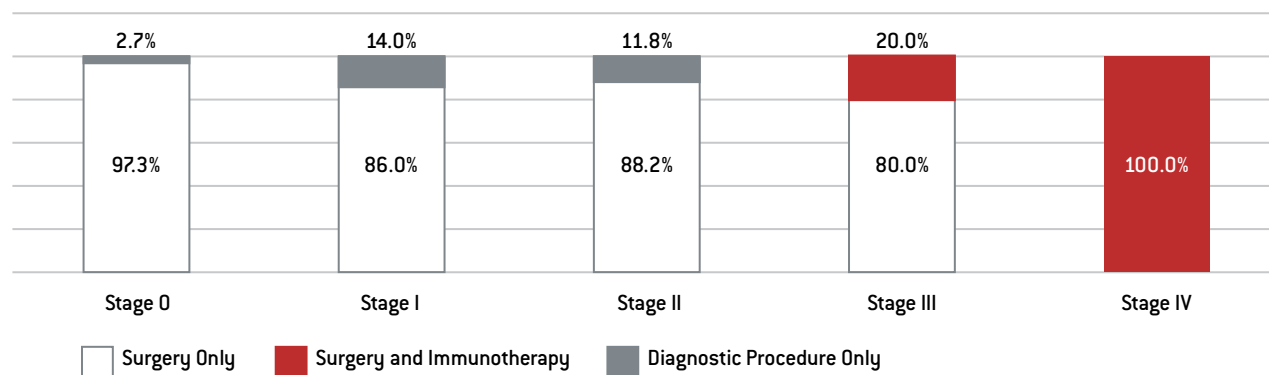


Treatment by AJCC Stage – UConn 2017 Newly Diagnosed Melanoma Cases

Most physicians and healthcare providers closely screen their patients for abnormal appearing moles and skin lesions and this close surveillance has facilitated that skin cancers are diagnosed in very early stages when patients can be cured through the surgical wide resection of these lesions. In 2017 the newly diagnosed stage 0-II melanoma patients who received treatment onsite at UConn, 100% were treated with wide resection alone. Some patients with stage III cancers with high risk prognostic indicators were treated with both surgery and immunotherapy. Immunotherapy is the most common systemic treatment for advanced stage melanomas that warrant systemic therapy. The UConn stage IV cases are patients diagnosed with distant metastatic disease at the time of diagnosis and these patients were treated with immunotherapy alone proving not to be candidates for surgical interventions.

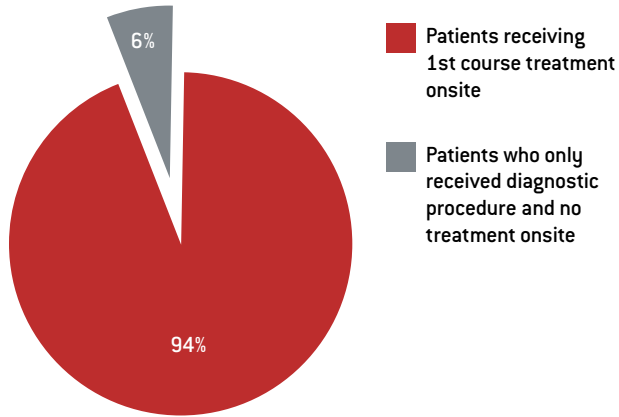
Stage At Dianosis	Surgery Alone	Surgery and Immunotherapy	Immunotherapy Alone	Diagnostic Procedure Only And NO Treatment Onsite
0	97.3%	0%	0%	2.7%
I	86.0%	0%	0%	14.0%
II	88.2%	0%	0%	11.8%
III	80.0%	20%	0%	0%
IV	0%	100%	0%	0%

2017 Cancer Case Assession Year Newly Diagnosed Melanoma Cases - First Course Treatment By AJCC Stage



Total Analytic Melanoma Cases	Patients Treated Onsite	Diagnostic Procedure Only and No Treatment Onsite
246	94.3%	5.7%

2017 Newly Diagnosed Melanoma Analytic Cases - UConn Treatment Status



COMMISSION ON CANCER STANDARD 4.4 – ACCOUNTABILITY MEASURES AND STANDARD 4.5 QUALITY IMPROVEMENT MEASURES – BASED ON CANCER REGISTRY DATA REPORTED FOR THE CANCER PROGRAM PRACTICE PROFILE REPORTS (CP3R)

Breast Cancer Measures [Rates from cases reported to the NCDB 2012-2015]

Commission on Cancer Standard	Quality Measure	Expected Performance Rate	Actual Overall Rates for Patients Treated at UConn Health
4.4	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	90%	97.5%
4.4	HT - Tamoxifen or third generation aromatase inhibitor is recommended or administered within 1 year (365 days) of diagnosis for women with AJCC T1c or stage IB-III hormone receptor positive breast cancer	90%	93.3%
4.4	MASTRT - Radiation therapy is recommended or administered following any mastectomy within 1 year (365 days) of diagnosis of breast cancer for women with >= 4 positive regional lymph nodes	90%	100%
4.5	nBx - Image or palpation-guided needle biopsy to the primary site is performed to establish diagnosis of breast cancer	80%	90.5%

Colon Cancer Measure [Rates from cases reported to the NCDB 2012-2015]

Commission on Cancer Standard	Quality Measure	Expected Performance Rate	Actual Overall Rates for Patients Treated at UConn Health
4.5	12RLN - At least 12 regional lymph nodes are removed and pathologically examined for resected colon cancer	85%	97.5%

Lung Cancer Measures [Represents cases submitted to NCDB for 2012-2015]

Commission on Cancer Standard	Quality Measure	Expected Performance Rate	Actual Overall Rates for Patients Treated at UConn Health
4.4	LCT - Systemic chemotherapy is administered within 4 months to day preoperatively or day of surgery to 6 months postoperatively, or it is recommended for surgically resected cases with pathologic lymph node-positive (pN1) and (pN2) NSCLC	85%	100.0%
4.4	LNoSurg - Surgery is not the first course of treatment for cN2, M0 lung cases	85%	100.0%

2017 Primary Site Table

AJCC Stage

Primary Site	Total #	Stage 0	Stage I	Stage II	Stage III	Stage IV	Stage N/A	Stage Unknown
Melanoma of the skin	246	58.0%	28.1%	6.9%	2.4%	1.2%	0.0%	3.4%
Breast	105	20.0%	46.6%	20.0%	7.6%	2.9%	0.0%	2.9%
Bronchus/lung	74	1.0%	43.2%	8.0%	18.9%	28.9%	0.0%	0.0%
Prostate gland	71	0.0%	15.5%	49.3%	14.1%	21.1%	0.0%	0.0%
Corpus uteri	59	0.0%	66.1%	8.5%	6.8%	5.1%	1.6%	11.9%
Meninges	47	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
Colorectal	46	17.3%	26.1%	19.6%	23.9%	13.1%	0.0%	0.0%
Bladder	41	24.4%	46.4%	14.6%	0.0%	7.3%	0.0%	7.3%

Hematopoietic/reticuloendo system	40	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
Thyroid gland	32	0.0%	60.6%	21.2%	12.1%	3.0%	0.0%	3.1%
Tongue (all sites)	22	0.0%	31.8%	27.2%	0.0%	36.3%	0.0%	23.8%
Other endocrine glands	21	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
Ovary	16	0.0%	31.3%	25.0%	31.3%	6.2%	0.0%	6.2%
Pancreas	16	6.7%	33.3%	13.3%	20.0%	26.7%	0.0%	0.0%
Stomach	14	0.0%	21.4%	7.1%	14.4%	50.0%	0.0%	7.1%
Larynx	14	0.0%	50.0%	21.4%	0.0%	21.4%	0.0%	7.1%
Skin (non melanoma & non scc & bcc)	13	0.0%	15.4%	7.6%	15.4%	0.0%	30.8%	30.8%
Lymph nodes	14	0.0%	28.6%	7.1%	21.4%	28.6%	0.0%	14.3%
Kidney	12	0.0%	66.7%	0.0%	25.0%	8.3%	0.0%	0.0%
Liver/intrahepatic ducts	9	0.0%	11.1%	33.3%	11.1%	44.4%	0.0%	0.0%
Unknown primary site	8	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
Esophagus	8	0.0%	12.5%	0.0%	25.0%	62.5%	0.0%	0.0%
Vulva	8	25.0%	62.5%	12.5%	0.0%	0.0%	0.0%	0.0%
Cervix uteri	6	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Brain	6	0.0%	16.7%	0.0%	0.0%	0.0%	83.3%	0.0%
Tonsil	5	0.0%	0.0%	0.0%	60.0%	40.0%	0.0%	0.0%
Small intestine	5	0.0%	40.0%	20.0%	20.0%	0.0%	0.0%	20.0%
Connective & other soft tissue	5	0.0%	20.0%	0.0%	20.0%	0.0%	40.0%	20.0%
Penis	5	0.0%	20.0%	20.0%	0.0%	0.0%	0.0%	60.0%
Other mouth	4	0.0%	25.0%	0.0%	0.0%	25.0%	0.0%	50.0%
Anus/anal canal	4	25.0%	25.0%	0.0%	0.0%	0.0%	0.0%	50.0%
Bones/cartilage	4	0.0%	25.0%	50.0%	0.0%	0.0%	0.0%	25.0%
Other female genital organs	4	0.0%	50.0%	0.0%	0.0%	0.0%	50.0%	0.0%
Testis	4	0.0%	75.0%	25.0%	0.0%	0.0%	0.0%	0.0%
Spinal cord & other cns	4	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
Gum	3	0.0%	0.0%	33.3%	0.0%	33.3%	0.0%	33.3%
Parotid gland	3	0.0%	0.0%	0.0%	33.3%	66.7%	0.0%	0.0%
Nasopharynx	3	0.0%	0.0%	0.0%	66.7%	33.3%	0.0%	0.0%
Renal pelvis	3	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%
Floor of mouth	2	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%	50.0%
Other maj salivary gland	2	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%	50.0%
Oropharynx	2	0.0%	0.0%	0.0%	50.0%	50.0%	0.0%	0.0%
Retroperitoneum/peritoneum	2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Vagina	2	0.0%	50.0%	50.0%	0.0%	0.0%	0.0%	0.0%
Lip	1	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Palate	1	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other parts of biliary tract	1	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
Accessory sinuses	1	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Pleura/mediastinum	1	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Other male genital organs	1	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
Eye & adnexa	1	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%

Total Cases

1,021

UConn **HEALTH**

263 Farmington Avenue, Farmington, CT 06030
1-84-GET-UConn • health.uconn.edu