

Making a Difference

Highest quality care. Education. Research. Innovation.



OUR MISSION:

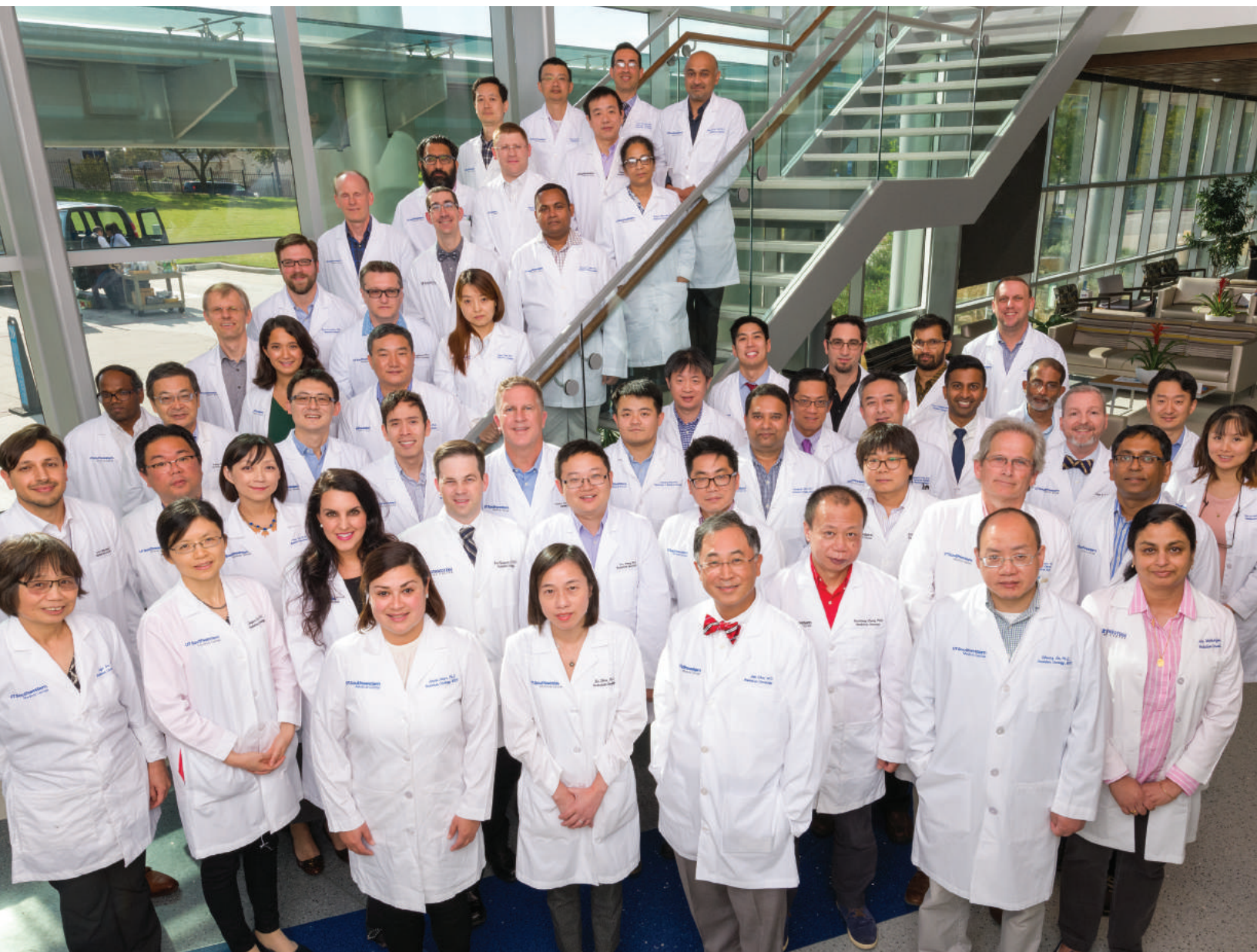
- To deliver world-class care on a daily basis to our patients using the most advanced technologies available.
- To conduct groundbreaking basic, translational, and clinical research.
- To provide quality education to the next generation of medical practitioners and scientists.



The Department of Radiation Oncology is a pioneering institution using advanced technology and delivery techniques to treat all types of cancer in adults and pediatrics. We have assembled a team of industry leaders who believe that the status quo in cancer is not good enough and we have to imagine – and then rigorously and scientifically test – new solutions to the problem of cancer.



Hak Choy, M.D., FASTRO
Chairman of Radiation Oncology



UTSW Radiation Oncology has over 100,000 square feet of clinic space

One of the finest buildings on UT Southwestern's campus is the new William P. Clements Jr. University Hospital, Harold C. Simmons Comprehensive Cancer Center, Radiation Oncology Building. With three floors and 63,000 square feet of space, this structure is the largest individual facility for radiation oncology in North Texas. The facility was built with the vision of not only being state-of-the-art, but it was structured with a futuristic design that enhances the delivery of quality care, creates efficient patient management, promotes collaboration among caregivers, and ensures high levels of patient safety.

Specialized Disease Teams

In the Department of Radiation Oncology, each major disease site has its own dedicated team of doctors, nurses, clinical researchers, and physicists, which allows our specialists to bring familiarity and expertise to each patient encounter. Each of our doctors also participates in larger disease-oriented teams within Simmons Cancer Center. Our teams include:

- Breast
- Central Nervous System
- Gastrointestinal
- Genitourinary
- Gynecological
- Head and Neck
- Lung
- Lymphoma
- Melanoma and Sarcoma
- Pediatrics



Advanced Patient Care

Comprehensive Stereotactic Radiotherapy Program —

Our physicians and physicists are recognized worldwide as leaders in the use of stereotactic therapies. SAbR, also known as SBRT, has become a more common treatment that is a particularly robust specialty within our Department.

More than 3,150 stereotactic treatments in FY 2018.

Comprehensive Brachytherapy Program —

UT Southwestern has the most comprehensive brachytherapy program in North Texas. Our radiation oncologists work closely with medical oncologists and cancer surgeons to provide brachytherapy to treat a wide range of cancers. Our cancer teams use imaging to guide brachytherapy procedures to make the treatments even safer and more effective, thereby maintaining our patients' quality of life.

We are recognized leaders.

- Our advanced intraoperative radiation therapy program is available to assist our surgical teams in the management of locally advanced and recurrent gastrointestinal malignancies.
- We are one of the few radiation oncology programs in the country that offers interstitial brachytherapy for liver lesions (primary cancer on protocol, metastatic as standard of care).
- We offer a palliative brachytherapy program for esophageal cancer, malignant obstructive biliary disease, and rectal cancer.

Treating more than 250 cases in FY 2018.

Advanced Technology

We offer some of the most technologically advanced and powerful treatment equipment available. Many of these options are unique to North Texas and the U.S.

The Gamma Knife Icon — the first in Texas — is the gold standard for cancer patients with inoperable brain tumors or brain metastases. Our CNS team treats a higher volume of patients than any other center in North Texas.

Benefits of the Gamma Knife Icon:

- Limiting of radiation exposure to healthy brain, head tissue, and cranial nerves.
- Ultra-precise stereotactic radiosurgery without using a restrictive headframe (as required in previous models).
- A more comfortable patient experience, including shorter treatment times.
- Ability to spread treatments over several days to protect neighboring tissues, if necessary, and ability to treat multiple, separate targets.
- Expanded treatment areas, including the eyes, face, and upper neck.

Over 400 patients treated in FY 2018.

Accuray CyberKnife M6 — UT Southwestern was one of the first facilities in the nation to use Accuray's CyberKnife when it was introduced in the 1990s. We now offer the latest generation, the CyberKnife M6, which has a robotic couch and real-time tracking and correction.

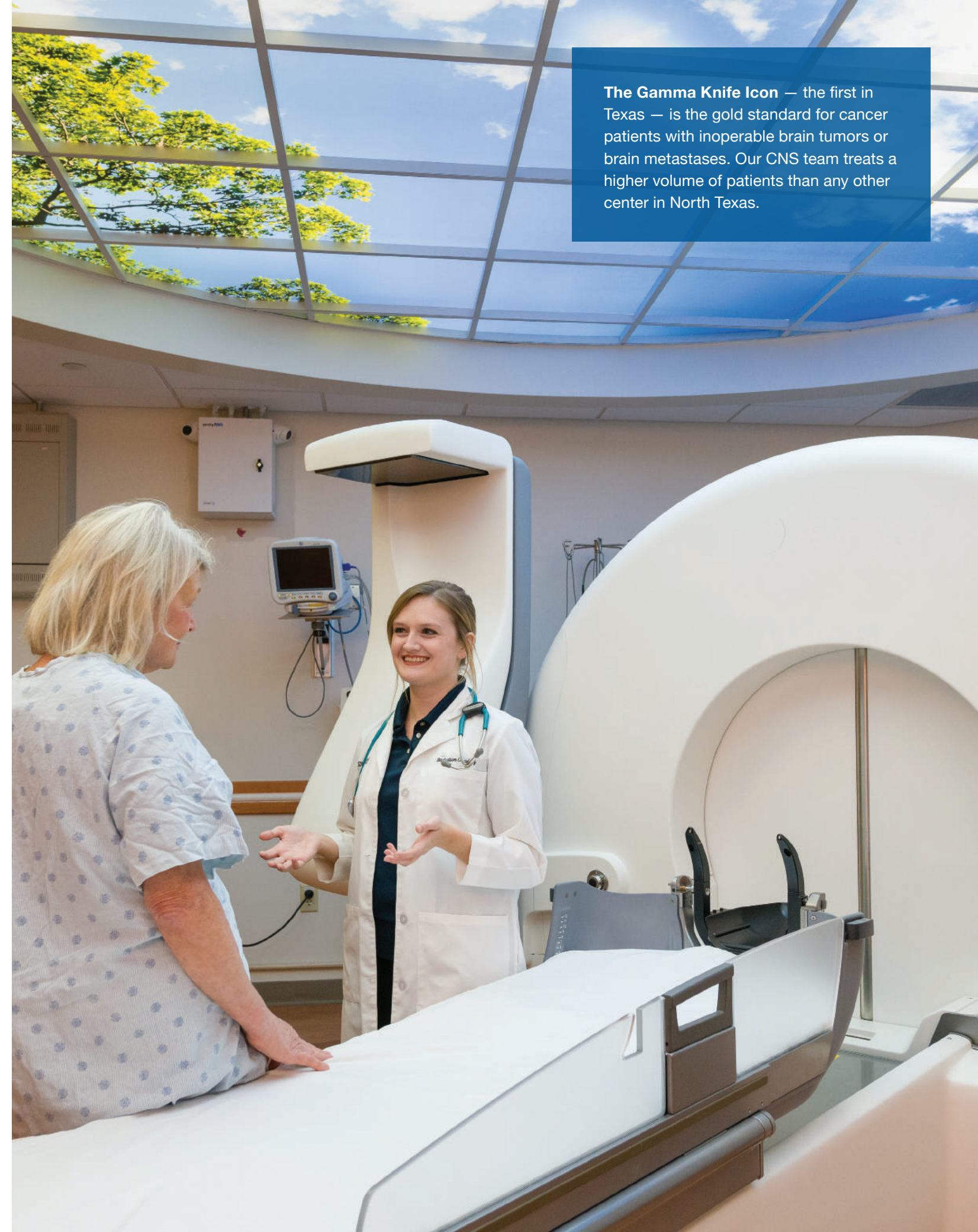
Benefits of the CyberKnife M6:

- Highly precise, nonsurgical treatment for tumors and lesions anywhere in the body through real-time tumor tracking and motion management. CyberKnife M6 is the only robotic radiosurgery system to offer these advantages. Because of this, patients are able to receive treatment with the maximum dose while minimizing healthy tissue exposure.
- A patient-focused design that offers soothing environmental elements while patients lie comfortably and breathe normally.
- Ability to spread treatments over several days to protect neighboring tissues, if necessary, and ability to treat multiple, separate targets.
- Expanded treatment areas, including the eyes, face, and upper neck.

Advanced Research

We take pride in a unique collaborative culture with the clinical research, physics, and molecular biology divisions.

- More than 25,000 square feet of lab space
- More than \$100 million in grant submissions
- More than \$15 million in grant funding



The Gamma Knife Icon — the first in Texas — is the gold standard for cancer patients with inoperable brain tumors or brain metastases. Our CNS team treats a higher volume of patients than any other center in North Texas.



CLINICAL RESEARCH HIGHLIGHTS

- Among 10 highest enrollment programs for clinical research in the U.S.
- Annual enrollment of more than 200 new patients in clinical trials
- 83 active clinical trials
- Leaders in multi-institutional studies focused on SAbR/SBRT



PHYSICS RESEARCH HIGHLIGHTS

Solving clinical and biomedical research problems using artificial intelligence (AI) technology:

- PEIM (Program for Excellence in Intelligence Medicine) is a collaborative educational resource to promote AI research. Focuses are:
 - Precision medicine
 - Diagnosis
 - Medical error detection
 - Quality assurance
 - Other related fields
- MAIA (Medical Artificial Intelligence and Automation) Lab develops and applies innovative AI tools to improve aspects of cancer radiation therapy. Focuses are:
 - Research and development identifying adverse effects in patients
 - Improving the quality of treatment planning



MOLECULAR BIOLOGY RESEARCH HIGHLIGHTS

A mission to educate and train scientists and clinicians in the disciplines of both radiation and cancer biology and to execute a multidisciplinary program of research focused on understanding the molecular, cellular, and organismal responses to ionizing radiation exposure for the betterment of humankind. Current research topics include:

- Mechanisms can enhance the combination of immunotherapy and radiotherapy
- Development and application of novel agents to be used in combination with radiotherapy
- DNA damage response and repair
- Use of carbon therapy and novel agents

The Department of Radiation Oncology is committed to providing comprehensive and advanced educational programs to the next generation of medical professionals, as well as professionals already practicing.

Education

- **Medical Residency Program**
 - A robust four-year program, accredited by the ACGME since 2005
 - Clinical training
 - Physics
 - Radiation biology
 - Biostatistics
 - Clinical trial design
 - Holman Pathway research opportunities
- **Medical Physics Residency Program**
 - A three-year program, accredited by CAMPEP
 - Two years of full-time clinical training
 - One year of research in medical physics
- **Cancer Biology Graduate Program**
 - Training for students interested in pursuing a research career
 - Investigating the molecules, mechanisms, and pathways involved in the development of cancer
- **Master of Radiation Therapy Training Program**
 - The first radiation therapy master's program in the nation that also includes a cutting-edge simulation lab

Special Programs

- **Gamma Knife Icon Training Program:** The primary focus of the Gamma Knife Icon course is to educate new Icon users and serve as an introduction for professionals who need to be trained for Gamma Knife.
- **CyberKnife Training Program:** The CyberKnife Training Program is designed for physicians who have primary roles in evaluating and approving treatment plans and confirming patient setup and alignment in CyberKnife treatment.
- **SBRT Training Program:** This CME course helps oncology professionals in academic, community, and private centers learn about the proper implementation of a viable and effective SBRT treatment practice.



Department Overview

Location

2280 Inwood Road
Dallas, Texas 75390

LEADERSHIP

- Hak Choy, M.D., FASTRO
- Robert Timmerman, M.D., FASTRO
- Steve Jiang, Ph.D.
- Michael Story, Ph.D.

PERSONNEL

- Faculty: **66**
 - Clinical Division: **24**
 - Physics and Engineering Division: **22**
 - Molecular Radiation Biology Division: **20**
- Employees: **229**
- Post-Docs/Students: **67**

For more information, visit our websites:

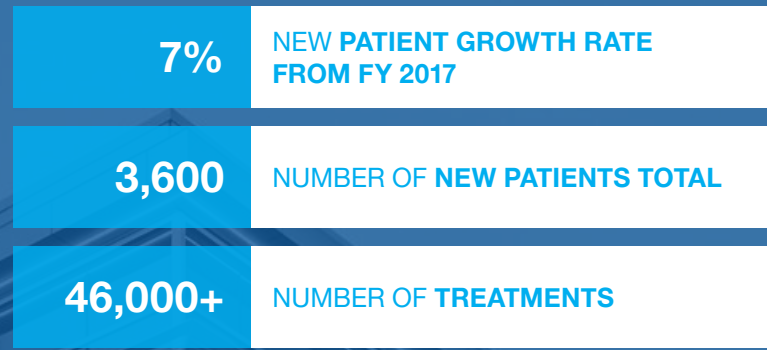
Education -

utsouthwestern.edu/education/medical-school/departments/radiation-oncology

Patient Information -

utswmed.org/conditions-treatments/radiation-oncology

FY 2018 PATIENT VOLUME



ANNUAL PATIENT CLINICAL TRIAL ACCRUALS

