



Miami Cancer Institute

BAPTIST HEALTH SOUTH FLORIDA

About Radiation Oncology at Miami Cancer Institute:

Miami Cancer Institute offers one of the world's most comprehensive and advanced radiation oncology programs, including South Florida's first proton therapy center. It is the only cancer center in the world to offer all of the latest radiation therapies in one place, which enables its physicians to choose the right treatment for each patient.

In addition to proton therapy, a complete range of radiation treatment options are available: TrueBeam Linear Accelerators, TomoTherapy, CyberKnife, Gamma Knife and ViewRay MRIdian MR Linac (one of only five sites in the U.S. to have this technology).

About Proton Therapy:

- Proton therapy is an advanced form of radiotherapy that uses a beam of protons to effectively destroy cancer cells. This extremely sophisticated, less invasive treatment targets the tumor with precision while largely sparing healthy tissue and decreasing the risk of side effects.
- Led by a team of internationally recognized experts with over 25 years of proton therapy experience, Miami Cancer Institute's Proton Therapy Center is one of fewer than two dozen of its kind in the United States.
- As the only proton therapy center from South Florida to Antarctica, Miami Cancer Institute offers the most advanced form of pencil-beam scanning (PBS) technology available today in all three of its gantry-based treatment rooms.
- PBS-based proton therapy is an advanced form of radiotherapy in which streams of high-energy proton particles are maneuvered with magnets to accurately deliver a very precise dose in the body where the tumor is located to effectively destroy cancer cells.
- Because protons can be controlled to completely stop inside the tumor, high radiation doses can be administered to the tumor while largely sparing healthy tissue and decreasing the risk of side effects.
- Proton therapy is particularly effective in treating children with cancer and adults diagnosed with cancers of the brain, head and neck, spine, lung, esophagus and liver, advanced breast cancer, prostate cancer and locally recurrent cancers.

About Gamma Knife:

- Gamma Knife is a nonsurgical procedure that uses beams of radiation to treat relatively small benign and malignant lesions inside the brain.

- Gamma Knife uses 192 radioactive sources that focus gamma rays at the center of the lesion to deliver an intense dose without harming surrounding tissue, arteries, nerves and other important structures.
- This noninvasive medical technology treats brain tumors, arteriovenous malformations (AVM), trigeminal neuralgia and a number of other brain pathologies.

About TomoTherapy:

- TomoTherapy is a radiation delivery system that pioneered the era of image-guided radiation therapy (IGRT), in which the ability to acquire a CT scan prior to radiation delivery ensures that the radiation dose is accurately delivered.
- TomoTherapy combines precise 3-D imaging using the onboard MVCT with highly targeted radiation beams delivered from 360 degrees around the body to generate extremely precise dose distributions in the body.
- Because TomoTherapy integrates treatment planning, patient positioning and radiation treatment delivery with one machine, the treatment delivery process is simple and efficient.

About TrueBeam:

- The innovative technology of TrueBeam STx gives physicians the ability to target tumors that are a few millimeters in size (cranial radiosurgery) to those that require treatment of the entire body (total body irradiation).
- By combining volumetric imaging and volumetric radiation delivery with technology that rotates around the patient, TrueBeam delivers the prescribed radiation dose from nearly any angle.
- Miami Cancer Institute radiation oncologists use TrueBeam to treat a number of cancers, including prostate, breast, brain, head and neck, lung and liver cancer sites.

About CyberKnife:

- CyberKnife is the first and only fully robotic radiation delivery system that can treat cancerous and noncancerous tumors and other targets precisely and accurately by using X-ray imaging capabilities.
- CyberKnife's linear accelerator is mounted on a robotic arm and enables radiation oncologists to define the target and deliver radiation directly to the tumor from a number of different angles — including hard-to-reach areas that cannot be treated with conventional treatment units.
- CyberKnife is a delivery system that is capable of tracking the target real-time and actively adapting to the location of the tumor so that the radiation dose is focused on the tumor exclusively and not on normal tissue. This is critical for tumors in the lung and liver that move due to respiratory motion.
- CyberKnife is used to treat cancers of the brain and spine, kidney, liver, lung and pancreas.

About ViewRay MRIdian MR Linac:

- ViewRay MRIdian MR Linac is the world's first and only FDA-cleared MR-guided radiation therapy system, and Miami Cancer Institute is currently one of only five sites in the U.S. to have this technology.
- MRIdian Linac provides a unique combination of simultaneous radiation therapy delivery and continuous magnetic resonance imaging (MRI) for the treatment of cancer. Because MRI technology eliminates the radiation exposure associated with computed tomography (CT) scans, MRIdian Linac allows for continuous imaging during the delivery of radiation therapy, permitting physicians to directly view and target the tumor during treatment.
- MRIdian Linac enables physicians to personalize the treatment based on changes in the shape or location of the tumor and surrounding tissues on a fraction-by-fraction basis.
- This technology is most appropriate for mobile tumors influenced by respiratory motion, such as those located in the lung, liver and pancreas.

About Miami Cancer Institute:

- Miami Cancer Institute, a part of Baptist Health South Florida, is a destination cancer center known for its leading clinical care, compassionate patient experience, advanced clinical research and state-of-the-art technology.
- Michael J. Zinner, M.D., is the Founding CEO and Executive Medical Director and is driving an active physician recruitment process that brings highly-specialized cancer expertise and programs to Miami Cancer Institute.
- The Institute offers a robust roster of more than 60 prominent physicians established in the community, in addition to renowned cancer experts, clinical researchers and genomic scientists recruited from the nation's top cancer centers.
- Miami Cancer Institute is being heralded nationally as one of the new "hybrid" cancer centers of the future, combining well-established, high-quality community-based cancer care with the best of an academic cancer center, subspecialty-trained surgeons, radiation oncologists and medical oncologists who are national experts and innovators in their fields.
- As Florida's only member of the Memorial Sloan Kettering (MSK) Cancer Alliance, Miami Cancer Institute is part of a deep and functional collaboration that ensures the standards of care developed by our multidisciplinary disease management teams match those at MSK. Our physicians meet regularly with MSK physicians, and actively participate in developing those standards of care. Together, they discuss your case, review treatment options and choose the most targeted therapies available that may lead to the best outcomes.
- Miami Cancer Institute opened its doors in January 2017 and is located on the campus of Baptist Hospital, connected by a pedestrian walk way (for ease with inpatient/hospital-based care).