



What is radiation therapy?

Radiation therapy uses high-energy radiation to damage the DNA of cancer cells so they cannot divide and grow. Radiation typically is applied to a localized area of the body to treat a cancer that affects only one part of the body, such as a single tumor.

When is radiation therapy indicated?

Radiation is used to shrink cancerous masses, help control pain associated with certain cancers, or prevent re-growth of masses that have been removed. Radiation can be used in combination with other treatments (such as surgery, chemotherapy, or immunotherapy) to help combat cancer.

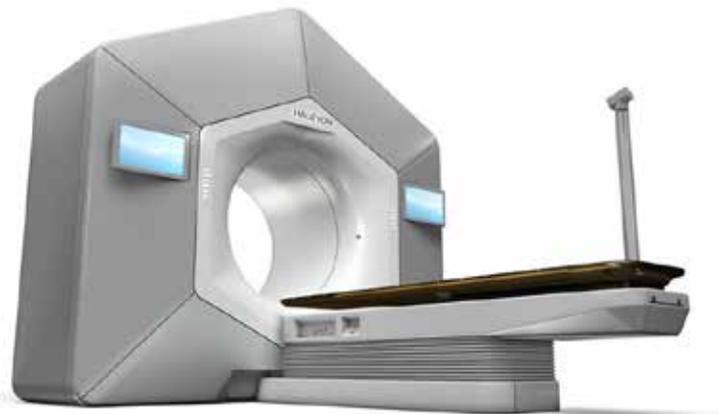
How is radiation administered?

Radiation is given following a protocol developed specifically for your pet's cancer. Often a computed tomography (CT) scan is used to obtain images of the radiation treatment site in two dimensions. This allows us to customize the radiation treatment very precisely. We use careful computerized planning to do this so that we can minimize the side effects to the normal surrounding tissues.

Each radiation treatment is given under anesthesia to limit patient movement, which allows us to protect normal tissues in the region while ensuring that the area needing radiation is treated appropriately. Radiation treatments can take as long as 30 minutes under anesthesia. Pets are typically in the hospital for 3 to 4 hours each treatment day, allowing time for a complete physical examination, anesthesia and radiation treatment administration, and full recovery from anesthesia prior to going home.

What is Stereotactic Radiosurgery (SRS)?

SRS, an advanced form of radiation therapy, has been a standard of care in human oncology for decades but is still an emerging technology in veterinary cancer care. SRS is intended to precisely target a tumor with high-dose radiation while minimizing side effects to the surrounding healthy anatomy. It uses innovative technology, advanced treatment-planning software, and precise, reproducible patient positioning to deliver radiation therapy with unprecedented precision. As a result, a higher dose of radiation can be delivered directly to the tumor while minimizing the irradiation of healthy tissue. Because it is non-invasive and precise, SRS can be used to treat tumors in complex or delicate locations such as the brain, spine, or lungs. We now have the ability to treat many tumors previously deemed a challenge to treat with standard RT.



The Halcyon System by Varian

What is special about SAGE's radiation therapy options?

In August 2017, SAGE will become one of only a handful of veterinary providers in the United States to offer [stereotactic radiosurgery](#) (SRS) to pets through a partnership with [PetCure Oncology](#). SAGE will deliver this treatment at its Campbell hospital using The Halcyon system by Varian. The Halcyon is a human-caliber machine and SAGE is the first and only veterinary practice in the United States to have it.

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With SRS, pets undergo 1 to 3 treatments, an 80 to 95% reduction in anesthetic events when compared to conventional radiation therapy. Reduced treatments and fewer anesthetic events maximizes your pet's quality of life and time at home.

SAGE veterinarians assess each pet's case and recommend treatment. SAGE's comprehensive cancer care also includes these forms of radiation therapy:

Conventionally Fractionated Radiation Therapy (CFRT)

Conventionally Fractionated Radiation Therapy (CFRT) uses targeted radiation to shrink or destroy cancers, including those that cannot be safely or completely removed by surgery alone. While SRS involves a fewer number of high-dose treatments, CFRT consists of multiple lower dose treatments spread out over a longer period of time. It can be used in conjunction with chemotherapy, following surgery, or as the sole treatment in cases where SRS is not an option. CFRT is typically administered daily in 16 to 20 treatment sessions over 3 to 4 weeks.

Palliative Radiation Therapy

Palliative radiation therapy is intended to increase a pet's comfort and quality of life, often when local tumor control is deemed unlikely. This option is especially useful when treatment options such as SRS or surgery are not viable. Palliative treatments are typically delivered in 4 to 6 doses of radiation given in a 1 to 4 week time-frame with the goal of relieving symptoms such as pain, bleeding, and decreased mobility.

What are the side effects of radiation?

The side effects depend on the radiation treatment area and the type of tissues surrounding the treatment area. Not all pets experience significant side effects while undergoing radiation. Generally, side effects to tissues can include skin reactions such as inflammation (redness) of the skin, a temporary side effect, and hair loss or changes in hair color in the radiation treatment field. Other side effects may include inflammation of the mucous membranes that line the areas like the mouth, nose, or intestinal tract. These are short term side effects. Diarrhea or decreased appetite may be seen if the intestinal tract is within the radiation field and are also short term side effects.

What is the treatment for radiation therapy side effects?

Treatment for inflammation of the skin can include steroids or application of aloe-based skin sprays. Antibiotics may also be prescribed to prevent secondary infections. Pain relievers such as mild oral narcotics may also be prescribed to make your pet more comfortable while the radiation side effects are healing. It is important that you check with your oncologist before applying any creams or treating your pet at home for radiation reactions, as some creams and cleaning the site can make radiation reactions worse or slow down the healing process. Using an Elizabethan collar to help prevent trauma caused by the pet licking or rubbing the radiation site is the single most important thing in you can do to limit radiation side effects!

Do I need to worry about my exposure to my pet following radiation treatment?

No, your pet is not a danger to your health after receiving radiation therapy from our linear accelerator.