VETERINARY® SPECIALTY CENTER
EMPLOYEE-OWNED

2051 Waukegan Road, Bannockburn, IL 60015
847.459.7535 Fax 847.808.8900
Email: rt@vetspecialty.com
vetspecialty.com

Radiation Therapy in Companion Animals

Radiation therapy is a treatment modality that has the capability of controlling, curing or palliating certain types of cancer. Veterinary Specialty Center is proud to be one of only a few facilities in the Chicagoland area to provide radiation therapy as an option for companion animals with cancer or severe inflammatory conditions. This handout is designed to provide an introduction to the use of radiation therapy in companion animals. It is not designed to replace consultation with your pet's veterinary team.

What is radiation therapy?
Radiation therapy is the use of high-energy x-rays or electrons in the fight against cancer. Your pet is *not* radioactive during the treatment course.

How is radiation therapy given?
The machine utilized to produce the x-rays for radiation therapy is called a linear accelerator (LINAC). The LINAC is housed in a special room designed to protect the surrounding environment and operators from the energy of the x-ray beam. The radiation delivered is much higher (1,000 X) than the radiation used to generate images (diagnostic x-rays), which is why it is highly destructive to cancer cells.

The total radiation dose is prescribed for the patient by the radiation oncologist. The total radiation dose is not given all at once, but is subdivided in "fractions", or individual treatments. A single fraction is most commonly given daily, but sometimes twice a day at least 6 hours apart. Therapeutic radiation is delivered this way because over many days a large dose of radiation is delivered to the cancer cells, while the normal tissues have 24 hours (or several days) in between each fraction to heal from radiation-induced damaged. Cancer cells are not as efficient at healing as normal, healthy tissue, which is why they are preferentially affected and killed. The number of fractions required is dependent on individual patient requirements.

The first session of radiation therapy treatment is called a simulation. During this simulation, the patient is anesthetized and positioned as if a treatment will be given. Special laser positioning tools are used to assure that the prescribed dose is given to an accurate area on the patient. Often, patients receive skin markings, which allow subsequent treatments to be given to an identical area. In many cases, the first fraction is given at the conclusion of the simulation. The simulation may take 1-2 hours depending on the complexity of the treatment plan. Subsequent fractions are scheduled based on the treatment plan. These fractions require sedation to immobilize and properly position the patient. Each subsequent fraction requires 30-45 minutes to complete. If advanced imaging and computer planning are required to treat a tumor, the simulation is acquired with a CT scan, and the first day of radiation treatment will begin a minimum of 2 days after that scan.

What are the side effects of radiation therapy?
Side effects of radiation therapy are usually related to local inflammation of the tissues incorporated into the radiation therapy field. Common reactions to the skin include redness, moist eczema, itchiness and localized hair loss. Skin irritation should subside by three weeks after radiation therapy. Regrowth of hair will take months. Hair may regrow in a different color or in some cases may not regrow at the radiation site. Occasionally organs that are adjacent to the radiated field may have some complications. This can be anticipated and discussed after the radiation plan is formulated.

What is the cost of radiation therapy?
Radiation therapy involves a large amount of state-of-the-art equipment and personnel with years of training to plan and administer the treatments. Therefore, radiation therapy is an expensive treatment modality. The exact cost is dependent on the type of tumor being treated and the complexity of the treatment plan.

What do I do next?

If your pet's primary care physician has identified a tumor that is potentially treatable with radiation therapy, please call our office (847) 459-7535 to schedule a consultation with our radiation oncologist. During this consultation, we will discuss the type of tumor your pet has, and give you some options for treatment of your pet.

What can I expect during the treatment course?

Anesthesia

Your dog or cat will need to be anesthetized for each radiation treatment. The treatment must be done precisely the same way each time to reach the same tissues consistently. So our patient's need to be perfectly still! Anesthesia helps us to achieve this goal. To develop the best protocol with the least amount of side effects, we use a combination of drugs that are tailored to your pet's physical requirements. We consult our in-house anesthesiologists if we have any concerns about your pet's anesthesia status. In addition, we monitor the level of anesthesia each day and adjust the protocol accordingly. This enables us to give the smallest amount of drugs and still achieve the proper depth of anesthesia for your pet. Radiation delivery is NOT painful, so they are just "deep" enough to keep them still. After the treatment is done, it takes between 15 and 30 minutes for the pet to gently wake up and go home.

At home

When you pick up your pet to take him/her home, they may still be a little sleepy. It takes a while for the drugs to be metabolized (cleared through the body), so until they are fully awake, your pet may feel some residual effect of the anesthesia. If your pet is receiving radiation on a daily basis, you may expect your pet to be somewhat less active than normal. As soon as the course of radiation therapy is over, your pet will return to normal activity in a short period of time.

Feeding

You will be instructed not to feed your pet 8 hours prior to the scheduled radiation appointment. Water intake is ok up until 4 hours prior to the scheduled appointment. This is very important for your pet's well-being. Please don't think that you are depriving them because they will be allowed to eat about an hour after they have woken up. Being fed prior to anesthesia may cause your pet to vomit. The patient could aspirate (breathe in) some of the vomit while they are in a relaxed state and this would then cause pneumonia. If you forget and accidentally feed your pet in the morning of a scheduled treatment, please call and let us know so that we may schedule a later appointment that day or postpone the treatment.

Supplements

If your pet is taking any supplements or if you are feeding a raw or holistic diet, please let us know. Some supplements and diets may interfere with radiation therapy.

E-collars/Pro-collars

During the course of radiation therapy your pet may need to wear an Elizabethan collar (E-collar) or Pro-collar. These collars must be worn by the patient to keep them from irritating the treatment area. Any irritation (rubbing, picking at scabs, etc.) will prolong healing of the area, possibly for months. Pets can cause tremendous damage to the radiation site within just a few minutes. We want your pet to recover from any radiation side effects as quickly as possible and as painlessly as possible. The E-collar or Pro-collar is a temporary nuisance for the long-term good of your pet.

Markings

It is necessary to use a nontoxic marker or paint on your pet's coat or skin to indicate the area being treated. We may also shave the area to make the markings more visible. Please avoid removing/washing the markings off of your pet.

Hopefully this information will help you better understand what to expect and make things a little less scary. If you have any questions at all, please ask. We are here to help you.

Veterinary Specialty Center is guided by the belief that companion animals deserve state-of-the-art medical care in a kind and comforting environment. The courage of our patients, the loyalty of their human families, and the devotion of our referral veterinarians inspire our vision. It is sustained by the contributions of our compassionate, knowledgeable and dedicated staff and built upon a tradition of providing unsurpassed healthcare for animals.