Radiation Therapy

Frequently Asked Questions

How does radiation therapy (RT) work?

Radiation therapy works by:

- Damaging cell DNA, both in the tumor and normal tissue
- Killing cells when they divide, except lymphocytes

What are the types of radiation therapy?

Full Course RT
Full course RT is also known as definitive or curative RT. The goal of full course RT is long-term tumor control. For best results, this type of RT is often combined with surgery and/or chemotherapy. Typically, one treatment or fraction is given per day (Monday–Friday) over a three to four week period. The protocol will vary slightly with tumor type, timing of RT relative to surgery (preoperative vs. postoperative), and location of the tumor on the body.

Since our goal with full course RT is to maximize tumor cell kill and duration of tumor control, we must accept an increase in the acute RT side effects. The acute RT side effects are seen in rapidly dividing cell populations such as skin and oral mucosa. Fortunately, these side effects are temporary and usually heal within two to four weeks after RT is completed. Late RT side effects are minimized with full course RT, since our goal is for the patient to live a long time with minimal long-term permanent side effects from RT. Full course RT protocols are designed to keep the risk of permanent (potentially life threatening) side effects less than five percent over the rest of your pet's life.

Key Details
- Daily treatment
- Monday - Friday
- 16 - 19 treatments
- Three to four week period

- Maximum Tumor Control
- Maximum Acute Side Effects
- Minimal Risk of Late Side Effects

Palliative RT
Palliative RT is also known as coarse fractionation RT. The goal of palliative RT is to improve or maintain the quality of life. Typically, three to six fractions are given once a week over a three to six week period. The protocol will vary slightly with tumor type and location of the tumor on the body. Since quality of life is our primary interest with palliative treatments, the RT protocols are designed to minimize acute RT side effects by giving fewer treatments with a larger dose/fraction. This allows rapidly dividing normal cells time to recover between treatments. However, late RT side effects are increased with palliative RT due to the larger dose/fraction. Palliative RT protocols are designed to keep the risk of permanent side effects less than five percent for one year; however, after one year the risk of side effects will increase.

Key Details
- One to two treatments per week
- Monday-Friday
- Four to six treatments
- Three to six week period
- Osteosarcoma: three treatments on inital day, day seven, and day 21
- Improve or Maintain Quality of Life
- Minimal Acute Side Effects
- Increased Risk of Late Side Effects

Length of Time Outpatient RT Treatment

- First RT: one and a half to two and a half hours per treatment
- Subsequent RTs: one to one and a half hours per treatment

Anesthesia

- Induction: propofol or mask
- Maintenance: Isoflurane + O2

What RT beams are available?

- X-rays: 6MV packets of energy
- Electrons: particles from an atom with energy

MEDVET
Leading Specialty Healthcare for Pets

Radiation Therapy

Frequently Asked Questions

What are the costs of radiation therapy?

Full Course: _____

Intermediate: _____

Palliative: _____

Second Site: _____

Pre-RT Dental: _____

Boarding: _____

CT Scan: _____

Bandages: _____

Side Effect Medications: _____

Feeding Tube: _____

What are the side effects of radiation therapy?

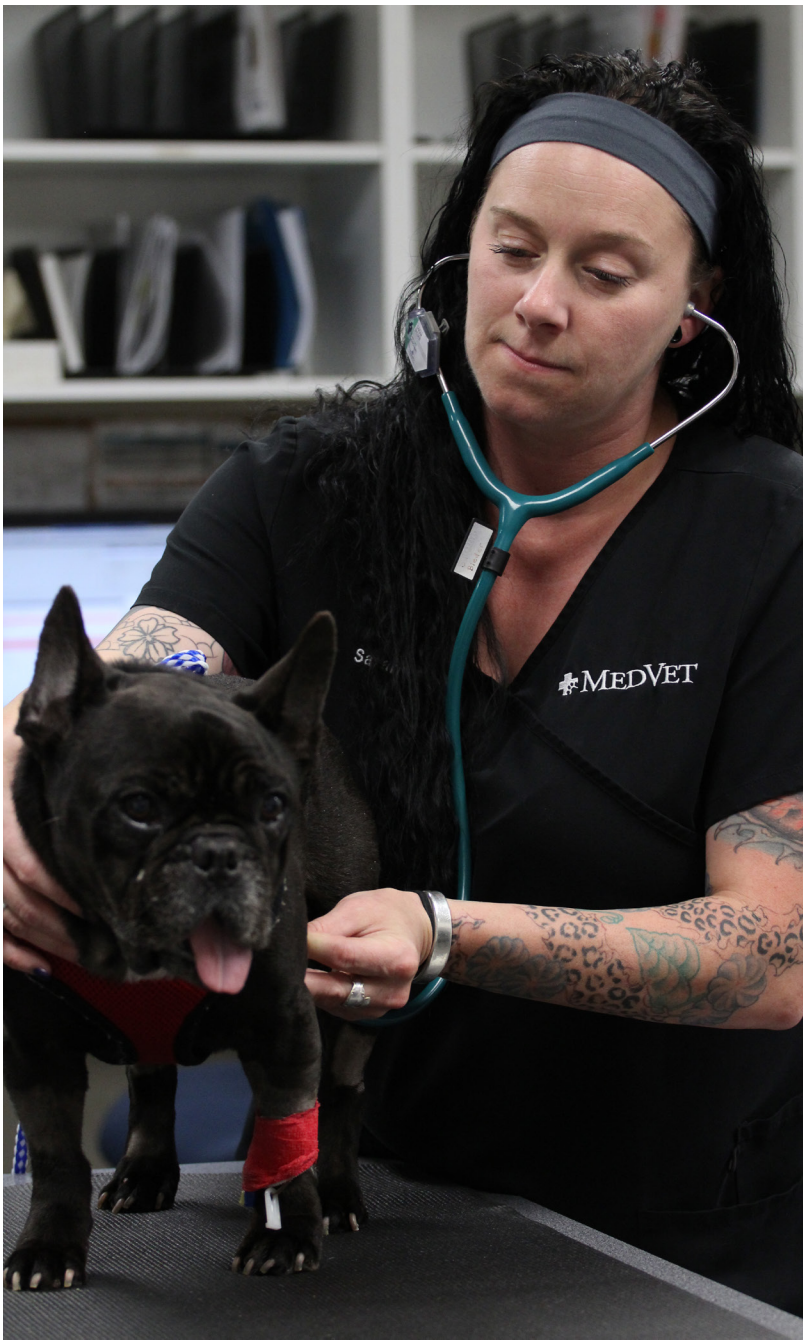
Acute or Early Side Effects: occurs in tissues that divide and develops during RT or within a few weeks after RT. These are **temporary** side effects.

- **Skin**: Moist or dry desquamation, starting at the end of the third or fourth week. Typically heals three to four weeks post RT.
- **Hair Follicles**: Hair loss. Re-growth will start two months post RT.
- **Oral Mucosa**: Oral ulcers, starting at the end of the second week of RT. Typically heals two to three weeks post RT.
- **Eyes**: Conjunctivitis
- **Tracheitis, Esophagitis**
- **Colitis, Urethritis**

Late or Long Term Side Effects: Occurs in tissues that do not divide and develop many months to years after RT. These are **permanent** side effects.

- Brain, bone, muscle – tissue scars or death.
- Dry eye, then cataract. Blindness may occur.

The goal is to avoid these side effects by using small, daily doses of RT and limiting total RT dose for most sensitive tissue.



For more information about our emergency and specialty veterinary services for pets visit **medvet.com**

MEDVET
Leading Specialty Healthcare for Pets