



RADIATION THERAPY FOR ARTHRITIS IN DOGS

Historically, radiation therapy has been known as one of the 3 main ways to treat cancer in humans and animals, alongside surgery and chemotherapy. However, radiation therapy has also found a role in helping to control pain in patients with primary bone tumours.

The underlying mechanism by which radiation therapy decreases pain in these patients is not yet fully understood, but both subjective and objective studies and tests on human and veterinary patients undergoing palliative radiotherapy for painful bone tumours demonstrate improvement in the vast majority of cases. The gold-standard test for determining this is the use of a force plate, which detects how much weight the patient is bearing on each limb as they walk across the plate. In veterinary studies for dogs with osteosarcoma undergoing palliative radiotherapy, force plate analysis has been used in an effort to determine the efficacy of treatment along with subjective observations by attending clinicians and owner surveys.



A recent paper published in the *Frontiers of Veterinary Science* journal provides exciting and promising data on the use of low dose radiotherapy for the treatment of degenerative joint disease (DJD) in dogs who are not adequately responding to medical therapy. It is important to note that the results of this study are based on subjective assessments of lameness and pain without the use of force plate analysis. Another paper published in 2016 in *Veterinary and Comparative Orthopaedics and Traumatology* utilised force plate analysis in dogs undergoing a single-fraction radiation treatment for DJD of the elbow joint, and they documented that "significant differences occurred in the weight-bearing on an affected limb with elbow osteoarthritis after radiation therapy at weeks six and 14". There is also much more solid evidence and data in the human literature to support the use of low dose radiotherapy for arthritic conditions of joints. A 2013 retrospective paper published in *Radiation Oncology* evaluated the use of low dose radiotherapy in 1037 human patients with painful gonarthrosis (inflammation of the knee joint) and found that almost 80% of patients experienced anywhere from slight to marked, to complete reduction in pain following treatment. The duration of response lasted 12 months or greater in over 70% of those patients.

Painful arthritic conditions affect a significant number of pets in Australia as they progress in age. Prescription anti-inflammatories, prescription diets, other analgesics and nutraceuticals are often used with varying degrees of success. While some patients may respond well to one, or a combination of these products, there are certainly pets out there that continue to struggle with painful joints despite medical therapy. It is these patients that are the ideal candidates to undergo low dose radiotherapy in an attempt to help them continue to live as comfortable as possible and enjoy life. At **Brisbane Veterinary Specialist Centre** our fully staffed and equipped Radiation Therapy service now offers these treatments at a significantly reduced cost to our clients, with the generous support of the **Australian Animal Cancer Foundation**. The treatment protocol involves a total of three radiation treatments under a brief general anaesthetic delivered over either three consecutive days or Monday, Wednesday, Friday.

If you have a patient who you feel might be a good candidate for this exciting and promising treatment option, please contact Dr Elias Gumpel on 07 3264 9400.