

UC Davis Veterinarian Offers Innovative Cancer Treatment

By Rob Warren

Posted in: [Canine Health](#), [Learn!](#)

Things were not looking good for Barkely in March 2012. This 9-year-old male chocolate Labrador retriever was diagnosed with nasal adenocarcinoma, a cancer inside his nasal cavity. After a year of treatment with chemotherapy by his referring veterinarian, Barkley's clinical signs were progressing and he was brought to the UC Davis Veterinary Medical Teaching Hospital for a novel treatment offered by Dr. Michele Steffey, a leading cancer surgeon in the hospital's Soft Tissue Surgery Service.

Barkley's care included a novel cancer treatment offered by the VMTH.

Barkley was initially evaluated at the VMTH in March 2013. Luckily, nasal adenocarcinoma tends to be locally invasive, and does not rapidly metastasize to distant places in the body (like the lungs and local lymph nodes). A CT scan performed at UC Davis showed that the disease had not spread through Barkley in the year since his diagnosis. The scan, however, did show that Barkley's nasal tumor extended all the way from the front of his nose to the back of his nasal cavity, with some tumor invasion of the nasal septum from the left side into the right side of the nose. The tumor was not invading past the cribriform plate (the bone that separates the back of the nasal cavity from the brain).

Currently radiation therapy is the gold standard of care for nasal tumors in dogs, and data regarding overall survivals for this treatment show a mean survival time in the range of 12-14 months. This can vary widely, though, depending on the extent of the tumor and the aggressiveness of the specific tumor. Radiation, however, consists of 16 treatments over the course of three weeks, all of which are under anesthesia. These treatments can also have significant unpleasant side effects to a dog's eyes and/or oral cavity.

Barkley's owner was offered radiation therapy but chose to enroll him in Dr. Steffey's new nasal tumor clinical trial instead. This new approach to treating nasal tumors involves a minimally-invasive method of killing the tumor by freezing it with cryoprobes. Dubbed "transnare cryoablation," this option of treating Barkley's tumor does require anesthesia, but does not require any surgical incisions. To date, observed side effects associated with the procedure have been minimal. Depending upon the individual patient's needs, it may be done as a one-time procedure, or as multiple treatments.

In late March 2013, Barkley underwent the procedure. A minimum of two to three freezing cycles (all done in the same session) are recommended to provide enough stress for optimal cell death. Barkley's tumor was frozen with four consecutive applications over the span of about 45 minutes. He recovered well with only mild, post-procedure nose bleeds, which are to be expected. Dr. Steffey was preliminarily pleased with what the cryoablation achieved. Multiple rechecks would be required to properly evaluate Barkley's on-going prognosis.

In April, Barkley returned to the VMTH for his 1-month post-treatment study recheck. His CT scan revealed a very positive response to the cryoablation. The bulk of the tumor was no longer visible on the scan. There were likely still small pockets of disease not easily imaged, but Dr. Steffey was highly encouraged by the results. As this is one of the first applications of this nasal study, it is difficult to predict how long this positive response will be seen, but initial observations of the cryoablation indicated success.

In July, Barkley returned to the Soft Tissue Surgery Service to see Dr. Steffey for his 4-month post-treatment study recheck. Barkley's CT scan showed no evidence of nasal tumor regrowth and no evidence of the cancer spreading to his lungs or lymph nodes. He was recovering well, and had not experienced any significant complications since the procedure.

Dr. Steffey is pleased with his progress and optimistic about his future. Barkley is currently enjoying life and doing very well at home, and will return to the VMTH in November for another recheck.

This article, written by Rob Warren of UC Davis Veterinary Medicine, was reprinted with minor changes and with the permission of the UC Davis School of Veterinary Medicine.

Tags: [cancer](#), [chemotherapy](#), [Dr. Steffey](#), [nasal adenocarcinoma](#), [Rob Warren](#), [UC Davis](#), [UC Davis School of Veterinary Medicine](#)