



Eight lives left for Linus the tabby cat 8-year-old cat recovering following removal of three brain tumors at WSU veterinary hospital

By Scott Jackson, Daily News staff writer Jan 10, 2019



Neurologist Dr. Annie Chen-Allen talks about 3D-printed replicas of Linus' skull and brain Wednesday at the WSU Veterinary Teaching Hospital in Pullman. Radiologist Dr. Tom Wilkinson made the prints based on MRI scans of the cat as part of its treatment.

Geoff Crimmins/Daily News



Linus, left, asleep with his buddy Rory Jayne on right on Sunday in Portland

Courtesy Holly Freifeld/Daily News

When Holly Freifeld brought her cat, Linus, to Washington State University's Veterinary Teaching Hospital, he had three tumors on the lining of his brain and it was uncertain whether he could be saved.

Wednesday morning, four months after two surgeries in August and September and a new partially acrylic skull, the 9-year-old tabby was back to his old self, surprising doctors and his owners with the swiftness of his recovery.

"(It's) incredibly surprising, I would say, given the fact that we had three tumors we had to remove," said Dr. Annie Chen-Allen, one of Linus' veterinarians who helped perform the procedures. "Not that no one's done that before, but I think most people try to shy away from doing that because it is so extensive."

When Linus came to WSU in August with the tumors, prognoses were more bad than good.

"At the clinic where we had the MRI done in Portland - all three neurologists agreed that surgery was too risky. They said, 'Your best option is to medicate him until he can't compensate anymore and

then let him go,'" Freifeld said.

"These (tumors) aren't uncommon in cats, but for there to be three of them - and one of them especially was quite large - it was a pretty extreme case."

When Linus went in for his first surgery at WSU in late August, the intention was to remove all three tumors at once and then reconstruct the skull. However, when the portion of his skull was removed, Linus' brain began to bleed and swell, bulging through the opening and making it difficult to operate.

With his blood pressure dropping, surgeons were only able to remove two of the masses before they were

forced to close around the swelling without replacing the removed piece of his skull.

“I actually went into the room and told the owner I was worried that he may not wake up from the anesthesia because of the swelling I was seeing in surgery and because there was a lot of blood loss,” Chen-Allen said. “But within 20 minutes from anesthesia being turned off, he woke up - so he surprised us.”

After his initial surgery, Linus recovered in the hospital’s ICU for two weeks before the second surgery to remove the last tumor and replacing the missing top of his skull. But the MRI and CT scan found his brain was still swollen.

Chen-Allen said Linus’ brain was herniating out of his skull and doctors had to come up with a creative way to replace the piece of skull they removed in his first surgery.



Washington State University veterinary student Jen Hergert, right, stops so Jalise Zumstein can see a cat named Linus on Wednesday at the WSU Veterinary Teaching Hospital in Pullman.

Geoff Crimmins/Daily News

Working from CT scans, Dr. Tom Wilkinson, a professor of radiology at the veterinary hospital, created a 3D replica of Linus’s skull and swollen brain and used it as a template to form a new skull out of a surgical acrylic called polymethyl methacrylate.



Owners Holly Freifeld and David Leonard hold their cat, Linus, in Sept., 2018

Henry Moore/Daily News/ BCU, Washington State University

“...the amount of money that it is - it is a lot - but it will never make as much difference in my life as he does and will.”

- Holly Freifeld, Linus’s owner

Linus had the final mass removed in September and Freifeld said that over the intervening months he returned to his old playful self.

The pair returned to WSU Monday and scans show no new tumor growth. Chen-Allen said while it is unlikely the disease has been eradicated, radiation therapy will help quell any further growth and could help him to live another four years (or 28 cat years) or more.

“As we understand, there are almost certainly some cells left,” Freifeld said. “This is something that will return with time and so the radiation therapy is our best bet for ensuring his longevity.”

While the procedures don’t even approach the cost of similar procedures in humans, cancer treatment for cats is not cheap.

Charlie Powell, senior communication manager for the WSU College of Veterinary Medicine, said the price tag for surgeries like Linus’ can stretch into five digits.

Freifeld said she and her husband, both conservation biologists with the U.S. Department of Fish and Wildlife Service, are on furlough as a partial shutdown of the federal government enters its third week.

Since there is no knowing when they will receive their next paycheck, the couple have been advised to apply for unemployment insurance. While the two aren’t wealthy by any means, she said they’re prepared to handle the expense and Linus is worth it.

“I don’t want to suggest that we’re made of money,” Freifeld said. “But we have good jobs and the amount of money this cost - it is a lot - but it will never make as much difference in my life as Linus does and will for the rest of his life.”

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