

Penny's Trip to Philadelphia

by Susan and Barry Hixson, Pennsylvania

Last year at the MAKC 16th Annual Show in Allentown held in October, Drs. Erik Johnson and Helen Roberts removed a large tumor from our two year old shiro utsuri named Penny. The tumor had started growing mid Spring 2004. At the conclusion of the koi health lab, attended by 40 club members, the surgery was performed by Dr. Roberts. Subsequent histology report of the tumor confirmed the suspicion of squamous cell carcinoma. Penny recovered fully and returned to the pond with her koi buddies. It was concluded that the tumor is non contagious but in all likelihood would return next year.



Susan conferring with Dr. Weise.

Sure enough, as the pond water returned to the low 70's (we heat the pond), the tumor started growing again. By early May, it was over one inch in diameter. We contacted our local vet in the Lehigh Valley, Dr. Karen Hess, who was willing to debulk the tumor as was done the previous year. When she consulted Dr. Roberts, it was decided to explore other forms of treatment: laser surgery, radiation, and chemotherapy. We were given the names of other veterinarians and finally received the name of Dr. Chick Weisse who came highly recommended by Dr. Greg Lewbart of North Carolina State University.

So, we contacted The Ryan Veterinary Hospital of the University of Pennsylvania in Philadelphia. This is one of the

busiest veterinary teaching hospitals in the country and sees more than 28,000 small animal patient visits a year. Dr. Weisse was glad to take our case and had some experience removing tumors via laser. In April 2004, he removed a pea-size tumor from a two-year old seahorse brought from the National Aquarium in Baltimore. Dr. Weisse was quoted, "The laser removed the layer of cancer cells while sealing the blood vessels, nerves, and lymphatics." Our Penny is now three, over 21" and weighs in at six pounds, a little bigger than the seahorse!



Check readiness of CO₂ laser.

Her appointment was scheduled for July 19 and our day began at 5:00 AM. We picked up an oxygen tank from Keirin Koi (thanks Carl) the night before, had two coolers, numerous bags, and were ready. We actually took two koi, Penny and a showa named Zippy, a 17", 3 pounder, who also was developing a similar tumor on his pelvic fin. We headed to the pond with the net, bowl, and bags. Zippy lived up to his name and jumped right over the 28" diameter net. We finally got him doubled bagged with one third water, two thirds oxygen, and placed him in a cooler. Penny was much easier to catch and went in a larger cooler. Did we mention that we also took four bags of the pond water (total of 25 gallons) to be used during the process? Somehow we got wet, changed our clothes, and made sure the 350 gallon quarantine tank in the basement was



ready when we returned from Philly. We pulled out of the driveway at 7:10 AM.

We made real good time until we hit the Schuylkill Expressway. Then we crawled along, at least we were moving, for the next six miles and took the South Street Exit, passed the University of Pennsylvania, the Hospital, Children's Hospital, and then saw the Ryan Veterinary Hospital. Dr. Weisse and a student were waiting out front for us. We were on time! Wow, this place is huge. When we spoke to the Admitting Clerk and mentioned that we had to unload five containers, she wanted to know if Penny could walk in. We explained that Penny was a fish and was bringing plenty of water with her, because it is preferred to keep the koi in the same pond water for all phases of the procedure.

We unloaded the car and were directed to the waiting room after we signed the necessary forms. This is a busy place. We must have seen eight dogs and one cat, but no fish. Our Penny and Zippy were taken away. We asked for permission to be present during the surgery and to take pictures. This is not standard procedure, but after reassuring Dr. Weisse that we understood the risks involved and would not interfere by being too emotional, we were taken to the surgery area.

Penny had two doctors administering the anesthesia, Dr. Ben Brainard and Dr. Alan Klide, head of Anesthesia.

Deborah Coming a 4th year student assisted. At one time there were a total of ten staff in the room working or observing. Guess they don't see koi on a weekly basis for surgery!

Penny went first and was sedated in MS 222 at 150 ppm. She barely fit in the anesthesia tank. She was transferred to the



One large ugly tumor being removed from left pectoral fin.

operating table and the CO₂ laser surgery started. Her pulse was monitored (doppler) and it stayed in the 60-80 beats per

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minute range. Her surgery lasted about 30 minutes. The masses on her left pectoral fin measured 6x7 cm and 3x4 cm. There was also a 1x2 cm mass on the dorsal aspect of the tail. The two pectoral fin masses could not be completely removed without removing the fin. Since all the tumor cells were not removed there is a high likelihood of reoccurrence. We chose not to have the fin removed which would have been more invasive and increase the chance of infection.

Zippy went next and his procedure removed a 1x1 cm tumor off his pelvic fin. A small amount of tissue under the tumor was laser-ablated to eliminate any microscopic tumor cells. Both Penny and Zippy had the tumors sent to the lab for histology reports.

We paid the bill, said our goodbyes and thank you's and headed back to the Lehigh Valley. There were no traffic problems leaving Philly. Once home, the koi were placed in the Q-tank. We salted the tank to 0.2%, fed sparingly, and gave Penny two shots of Baytril IM every other day. We were unable to get the first shot in her, thought we could do it without sedation. There was no problem getting under the scales when she was sedated using oil of cloves.

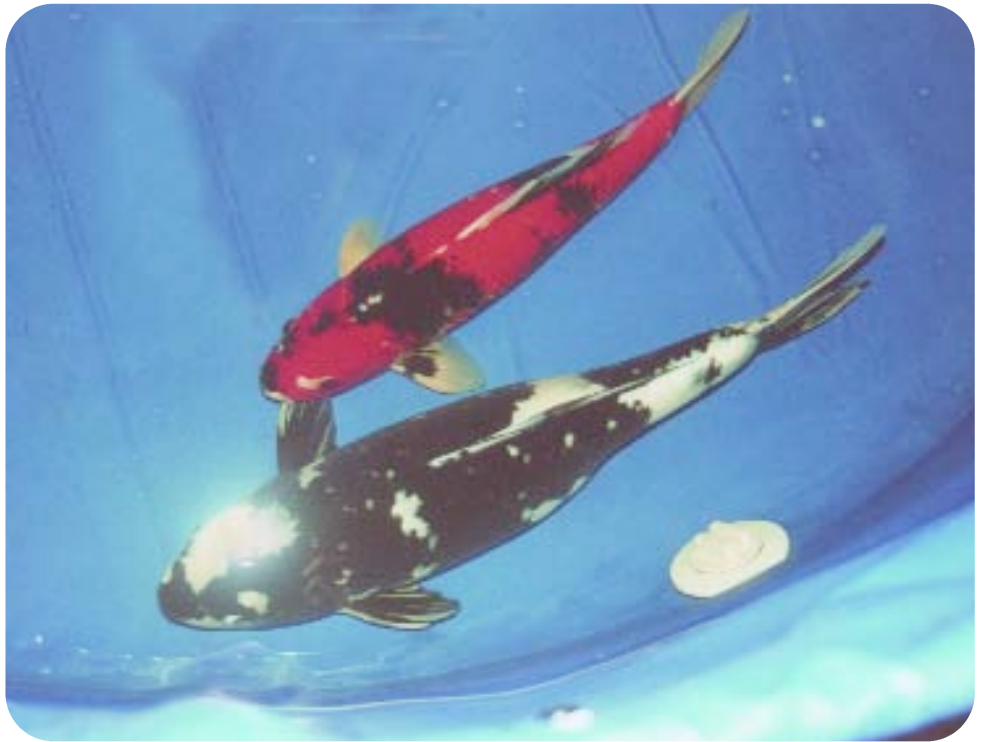
They seem fully recovered, will spend two weeks in the basement, and then join the other koi in the pond. We took lots of pictures. We hope to receive an anti-angiogenesis cream from Dr. Scott Weber who used to work at the U. of PA and now is Head Veterinarian at the New England Aquarium. The medication has been used on koi and dolphins to treat this type of cancer.

To other club members who have been involved in this adventure and have offered advice, we say thank you. We especially want to thank Dr. Erik Johnson, Dr. Helen Roberts, Dr. Karen Hess, Dr. Greg Lewbart, Dr. Scott Weber, Victoria Vaughan, Richard Carlson, Carl Forss, and Jim Reilly.

If you have any experience with tumors on koi and treatment please contact us. Penny and Zippy are our pets and we look forward to enjoying them for many, many years.

Happy Pondering! ❖

P.S. If you want to see pictures of the 2004 surgery, look in the Nov-Dec 2004 issue of *Mid-Atlantic Koi*.



Penny with companion Zippy at home in quarantine tank.