

PIONEERING VETS IN THE KEYS TRY NEW TREATMENT ON GREEN SEA TURTLES BLINDED BY TUMORS

All they need is a miracle

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GETTING HELP: Pe'e, a rescued green sea turtle, awaits surgery to remove tumors. Above,

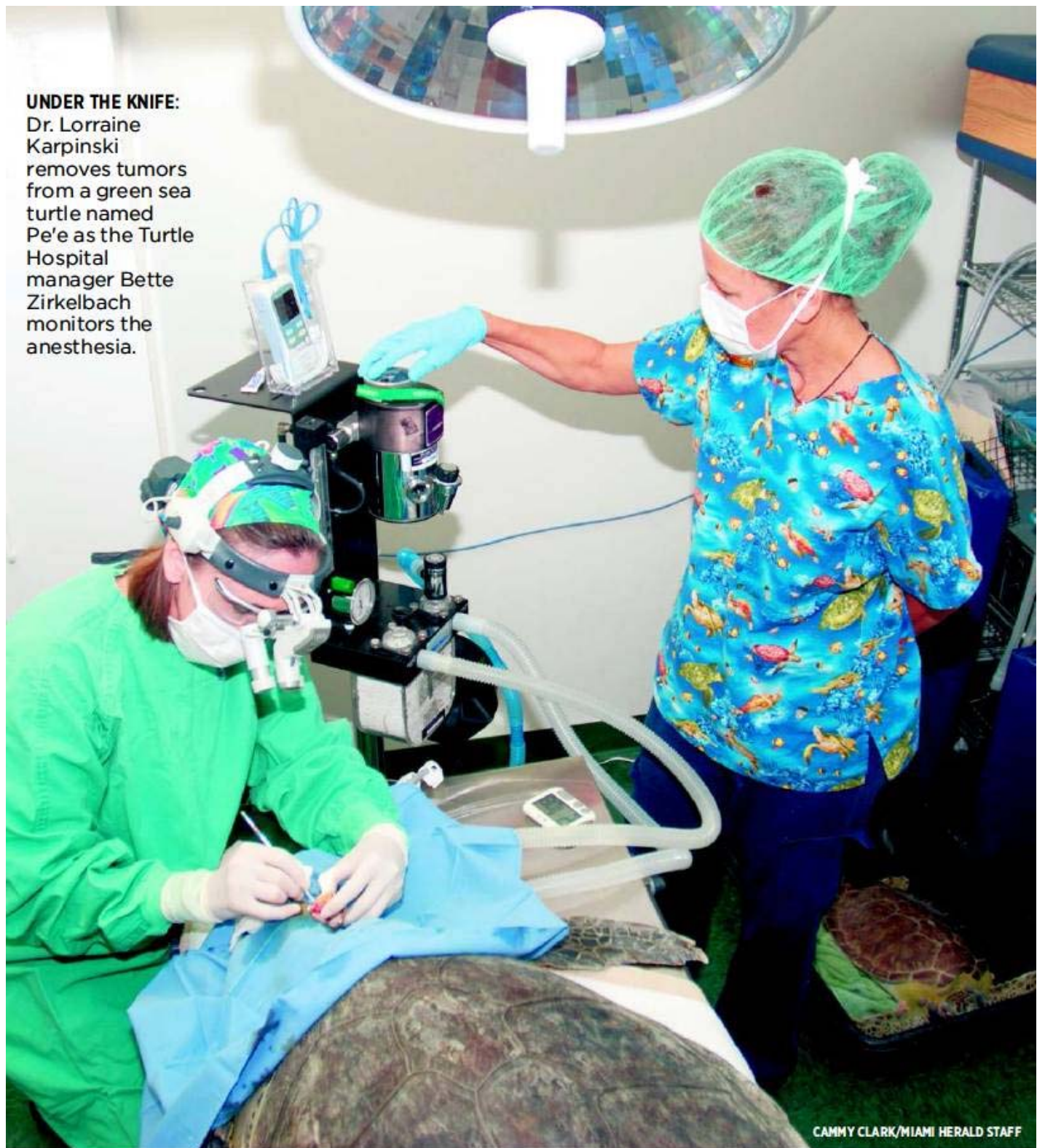


GETTING HELP: Pe'e, a rescued green sea turtle surgery to remove tumors. Above, Dr. Lorraine Karpinski injects anti-cancer medicine to prevent tumors from growing back as Matt Brochhausen and Bette Zirkelbach from the Turtle Hospital help.

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Ditka the dog didn't know what to make of the seven unfamiliar creatures he saw in tubs sprawled on the floor of a small examination room during a March visit to the Pine-crest Veterinary Hospital.

Hook, Jack, Emerald, Chris, Augustus, Jared and Pe'e — all diseased green sea turtles named by their rescuers — had traveled 2½ hours in the Turtle Hospital ambulance to see veterinary ophthalmology specialist Dr. Lorraine Karpinski.

The cold-blooded patients all were found with the same problem: fibropapilloma tumors around their eyes. The growths of varying sizes looked like decaying florets of cauliflower, blocking the turtles' vision like storm shutters on a window. Without vision, the sea turtles cannot find food in the wild.

The turtles didn't know it, but their lives were in the hands of the sandal-wearing vet who has worked for 42 years on animals' eyes — including those of Lolita the killer whale and thoroughbred Seattle Slew before he won the Triple Crown.

Bette Zirkelbach, manager of the nonprofit Turtle Hospital in the Middle Keys' island town of Marathon, had contacted Karpinski a few months earlier “in desperation” to find a new treatment to help Hook and Jack avoid euthanization. As in the case of many turtles with the same condition, their eye tumors grew back about six weeks after being removed, a process that kept repeating itself.

“We can't release turtles back into the wild if they don't have vision in at least one eye,” Zirkelbach said.

Karpinski came up with the idea of trying Fluorouracil, an anti-cancer medication used in humans. Karpinski already had found success using it on horses with skin cancer and on a Malayan tapir at Zoo Miami with eye tumors. Maybe, she thought, it would work on the endangered sea creatures.

“Dr. Karpinski got creative,” Zirkelbach said. “And honestly, the turtles had nothing to lose.”

It also helped that the medication isn't expensive

— \$12 buys a bottle that can go a long way. “So it was something within our reach to try,” Zirkelbach said. “And Dr. Karpinski was wonderful to us to volunteer her time.”

Fibropapilloma is a herpes-like virus first recorded in 1938 in a green sea turtle that had been captured around Key West and ended up in the New York Aquarium.

The disease occurs predominantly in green sea turtles in warmer regions including the Caribbean, Hawaii, Australia, Japan, the Indian River Lagoon and Florida Bay.

Nearly three decades ago, Karpinski worked with Richie Moretti, founder of the Turtle Hospital, to help turtles that arrived with the eye tumors.

“We bought them a little more useful vision for a while, but we didn’t make them any more releasable,” Karpinski said. “We couldn’t do surgery every six weeks or so to remove new tumors. We were just spinning our wheels.”

Over the years, about one-third of the turtles brought to the Turtle Hospital with fibropapilloma have had to be euthanized. Nothing can be done if an endoscopy shows that a turtle has internal tumors.

“It’s certainly heartbreaking,” Moretti said. “Mother Nature has not been kind to these animals.”

Since 1986, the Turtle Hospital has participated in fibropapilloma research projects with the University of Florida and Albert Einstein College of Medicine Institute for Animal Studies, but with little success in finding a cause or cure for a disease that infects between 50 and 70 percent of some populations of the turtles.

“It’s very frustrating,” Moretti said.

Now, the hospital has partnered with the University of Georgia to try to learn more. But time was not on the side of Hook and Jack when Zirkelbach called Karpinski for help.

Hook had been undergoing treatment since July 2012, when he was found with a fishing hook lodged in his right flipper and signs of trauma on his left flipper, likely due to an old entanglement.

At first he was taken to the Miami Seaquarium, where the hook and lesions were removed. But two months later, after the lesions grew back and were confirmed to be from the virus, Hook was transferred to the Turtle Hospital.

There, Hook had eight surgeries, including five specifically to remove small tumors from his eyes. After those surgeries, Hook was tumor free except for a stubborn one around his left eye. He was facing euthanization.

Jack, who rescuers didn’t know was a female when they named her, was caught in a gill net by Mote Marine Lab researchers in June of last year. She had lots of tumors on her body and both eyes, and the tumors were surgically removed. But Jack still could not see and also was running out of options.

In December, Karpinski also performed surgery on Hook to remove tumors, but instead of using the laser that works well but leaves scar tissue, she cut away the tumors. “It leaves us a cleaner area,” she said.

Still, it is impossible to remove every last virus cell. So, the surgery was followed by drops of the anti-cancer medication just on the surface of the eye, to prevent pumping the entire animal full of the chemotherapeutic drug. The drops are given twice a day.

Jack, who was thought to have no vision even after her tumors were removed, was given the topical eye drops upon her first visit to Karpinski.

In January, Karpinski saw Jack and Hook again, as well as three more turtles. Four of them had surgery to remove tumors. One has since died of an unrelated lung affection.

Zirkelbach brought seven turtles to Pinecrest for the third visit to Karpinski. They included Pe'e, who was rescued and brought to the Turtle Hospital on Valentine's Day – the same day renowned marine artist Wyland helped release two turtles back into the wild.

Most of the sea turtles that develop the tumors are juveniles. Pe'e is one of the rare sub adults to get the disease. The theory is that turtles either die with the disease before they become a sub adult, or by that age they have become immune to it.

The seven turtles were put on Karpinski's examining table almost like it was an assembly line. Each one had its own thick chart.

Some of the turtles are now receiving the medication as injections into the soft tissues of their eyes. They are good for three weeks.

Hook was not happy to see a large needle pointing at his eye. He refused to keep his eyelid open for Karpinski and urinated on Turtle Hospital rehab specialist Matt Brochhausen.

"It'll be worth it if the tumor goes away and you can go swimming in the ocean," Zirkelbach told the turtle.

Karpinski worked while a chorus of barking dogs and meowing cats could be heard in the background. While some of the turtles were perfectly quiet, others made a racket by whacking their flippers on the tubs that were made for mixing cement.

Some of the turtles hissed. But all are a bit of a challenge to work with, especially since they are not used to people.

"With dogs and cats you can work your fingers around their eyelids, but these guys have to want to open their eyes or not," Karpinski said of the turtles.

They also can bite, with little razor jaws. "They have serrated teeth that can do real damage because they are meant to clip sea grass like scissors," Brochhausen said.

Karpinski examined Jack and said she can see positive changes in her eye. Brochhausen said the Turtle Hospital staff members also think Jack is showing signs of being able to see again by the way she goes after food in her tank.

While preliminary results are promising, it's way too early to tell if the treatments will work in the long term. Doctors also are watching for side effects.

“We are doing what you might call off label, very far off label with the use of this drug,” Karpinski said. “I don't think it says anywhere that it may be used in sea turtles, or pregnant sea turtles.”

But the virus is such a worldwide problem for sea turtles that other facilities, including a wildlife center in Kenya, already have inquired about the pioneering treatment.

After Karpinski finished the examinations, it was time for Pe'e and Jared to have their tumors surgically removed. Both were given sedation medication followed by general anesthesia that knocked them out.

“When they wake up from the anesthesia and their tumors are off, they will look around and see for the first time in months and maybe years,” Zirkelbach said. “They can see right away.”

Even with the volunteer time of the vet and the cheap medication, the cost of helping each turtle is thousands of dollars. Funding comes primarily from education fees charged to the 60,000 people who visit the Turtle Hospital annually and from donations.

The Turtle Hospital will not release any patients back into the wild unless they are tumor free for at least a year.

Said Karpinski: “Looking at this differently with today's drugs, we may help more of these turtles be released.”