

Ophthalmologist performs cataract surgery on a gorilla

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About the doctor

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Every ophthalmologist faces challenging cases, but few will face a case like that presented to Chris Heichel, MD. Dr. Heichel found himself operating on 3-year-old Leslie in December 2019, but this was no pediatric patient. She was a gorilla residing at the San Diego Zoo Safari Park.

Dr. Heichel said the gorilla, when presented to him, was described as having a white pupil for a few months prior and developing an occasional eye turn. It sounded as if the gorilla was getting strabismus, he said.

Earlier in the year, Leslie, the youngest of a troop of eight gorillas at the Safari Park, had an accident while wrestling with her older siblings, resulting in a minor neck injury. “I had a strong feeling this was a traumatic cataract,” Dr. Heichel said.

Dr. Heichel went to the park to examine her. From a couple of feet away, he started examining her eye with a direct ophthalmoscope. “I heard she was pretty curious and handsy, so if I got too close, she might grab it from me,” he said. But that was not the only problem. He heard pounding footsteps coming from behind the young gorilla; her protective mother, Kokamo, showed up, putting an end to the first visit.

Dr. Heichel and other experts first had to determine whether the cataract should be removed. “The veterinarians at the zoo were concerned that if we didn’t do something that it might affect her ability to perform her daily tasks,” he said, adding they also worried that the eye turn would impact her ability to mate in the future.

“I confirmed that if I didn’t do something in a 3-year-old human child, in all likelihood that eye would not fully develop and would have limited vision,” he said. What’s more, they couldn’t wait more than a couple of months to proceed or the successful treatment window might close, he stressed. The surgery was scheduled for Dec. 10, 2019.

During the procedure, Dr. Heichel made sure to load Leslie up on topical, subconjunc-

tival, and intracameral medications to help forestall any postoperative infection.

Dr. Heichel found that removing the white cataract was almost identical to typical phacoemulsification on a human, with some slight differences. Other than a prominent brow, the average gorilla eye measures slightly shorter, around 23 mm, while the white-to-white measurement is slightly larger, around 12 mm in a gorilla. One big difference is that gorillas have highly pigmented conjunctivas, although with a similar texture to those of humans, he said.

Given Leslie’s young age, Dr. Heichel used an IOL that aimed to make her initially slightly hyperopic so that with growth, she would end up between 0.25 and 0.5 D myopic. Additionally, staining the capsule with trypan blue, implanting a capsular tension ring, and creating a primary posterior capsulorhexis helped to ensure a successful operation. Overall, “the surgery went great,” Dr. Heichel said.

Because of concerns that Leslie’s mother, Kokamo, might become overly agitated or stressed when Leslie was removed for the procedure, she was gently anesthetized simultaneously. Afterward, both she and Leslie were kept separate from the troop to ensure that the young gorilla didn’t inadvertently injure herself as well as to limit infection risk, Dr. Heichel explained.

When wanting to perform the first post-op exam, Dr. Heichel said he initially made the mistake of looking Kokamo in the eye. “I looked up at her and regarded her, and Leslie’s exam was over,” he said. Kokamo immediately reacted negatively to this. The next time, after checking with the keepers, he made sure to avoid this “social mistake” and was able to perform an exam.

Isolation of the pair affected Kokamo to the point where she refused to let anyone near Leslie to instill drops. A decision was made to reintroduce them to the troop. “Within 1 hour of this, Kokamo let the keepers put in all the medicine that they wanted,” Dr. Heichel said.



However, rejoining the rest of the troop meant that Dr. Heichel also had to contend with Leslie's dad, Winston, a 400-pound silver-back gorilla. When he went to examine Leslie, he found her and Kokamo standing behind Winston. Dr. Heichel said he had to try very hard not to appear challenging. Kokamo, seemingly, intervened. "She got the idea that I was in some way trying to help Leslie and actually brought her next to me so that I could look at her," Dr. Heichel said.

The last time Dr. Heichel examined Leslie, the attitude of the gorillas in the enclosure had changed. Her siblings were vying for his attention, Kokamo was relaxed, and Winston was sitting casually nearby. "That was a very special day. It was like they had accepted me," Dr. Heichel said.

Leslie ultimately healed well, and Dr. Heichel said he enjoyed the whole experience, encouraging other practitioners to seize similar opportunities when they arise. 🍷



Leslie, a gorilla at the San Diego Zoo Safari Park, in surgery on December 10, 2019

Source (all): © Ken Bohn, San Diego Zoo Safari Park

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