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ASSESSING PERIPHERAL VISUAL ACUITY IN A VISUALLY-IMPAIRED CALIFORNIA SEA LION (*ZALOPHUS CALIFORNIANUS*) PRE- AND POST-CATARACT SURGERY

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Cataracts, a lens condition that causes clouding of the lens and an obstruction of vision, are commonly observed in wild, stranded, and captive pinnipeds. The development of cataracts is attributed to nutritional deficiencies, trauma, age, inadequate access to shade, and/or genetic risk factors. However, despite the well-documented prevalence of ocular diseases in pinnipeds, there is a paucity of information regarding the efficacy of corrective surgery, which presents a serious risk of death to the animal (due in large part to the need for general anesthesia), requires a significant time investment for pre-surgical training and post-operational monitoring, and incurs a significant cost to managed care facilities. In this study, the success of surgical intervention was assessed through visual acuity tests administered pre- and post-cataract removal surgery. The subject was a 20-year old, female California sea lion (*Zalophus californianus*) with advanced cataracts in both eyes, and she was trained to orient towards various light sources to test for visual and peripheral response. Trials were conducted prior to surgical correction ($n_{\text{pre}} = 20$) and following cataract removal surgery ($n_{\text{post}} = 10$) over a 12-month period. The subject's rate of response to light stimuli after surgery was significantly greater than her responses pre-surgery, suggesting the successful elimination of lens obstructions and improved visual acuity. Although additional research is needed, these data serve as a baseline for establishing the efficacy of corrective surgery in California sea lions with cataracts and should assist with decisions to utilize surgery as an intervention strategy.