Influence of Eye Size on Radiation Absorbed Dose Delivered to Non-Targeted Tissues during Stereotactic Radiosurgery for Age-Related Macular Degeneration

Oraya Therapeutics, Inc. is a privately-held company developing innovative and non-invasive therapies for diseases of the eye. The company’s first commercial application, the IRay™ system, is currently undergoing clinical trials for the treatment of wet age-related macular degeneration (AMD).

Affecting central vision, wet AMD is caused by the deterioration of the macula, located in the central portion of the retina. According to AMD Alliance International, AMD is the leading cause of vision loss for people over the age of 50 in the Western world, affecting approximately 25 to 30 million people. Although the wet form of AMD accounts for only 10 to 15 percent of all cases, the risk of severe sight loss is much greater. Wet AMD is responsible for 90 percent of cases of severe vision loss associated with AMD.

Oraya is dedicated to advancing the treatment of wet AMD through the development and planned commercialization of the IRay system—a noninvasive, low-voltage, stereotactic radiosurgical device designed specifically for office-based ophthalmic use. IRay delivers a precise dose of radiation noninvasively to the macula using a robotic positioning system, a proprietary localizing algorithm and a novel methodology for eye stabilization.

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![Lens Average Doses](image1)

*Figure 1: Lens Average Doses. All doses have relative errors less than 1%*

![Central Retinal Artery Average Doses](image2)

*Figure 2: Central Retinal Artery Average Doses. All doses have relative errors less than 3%*

![Optic Nerve Average Doses](image3)

*Figure 3: Optic Nerve Average Doses. All doses have relative errors less than 1%*