Medennium

September 20, 2020

Patents Issued for the Medennium Phakic Refractive Lens - MPL

The innovative nature and uniqueness of the Medennium Phakic Lens (MPL) have been recognized with the granting of three patents in 2020. The patent , “Self-Centering Phakic Refractive Lens with Parachute Design,” has been granted in three key markets.

- U.S. Patent 10, 524,898 issued on January 7, 2020
- Korea Patent 10-2085521 issued on March 2, 2020
- China Patent ZL 2016800287136 issued on September 11, 2020

The design is based on Medennium’s Phakic Refractive Lens, which has been improving vision for over 20 years. Phakic intraocular lenses are used for correcting refractive errors such as myopia and hyperopria. Such lenses have also been used in some cases to help people with presbyopia, where the eye no longer readily moves between distance and near vision. People with presbyopia find they need reading glasses to read small print. The MPL may be thought of like eyeglasses or contact lenses that, instead of being placed in front of the eye, are placed into the eye by an ophthamologist.

The patents describe the MPL as an improved self-centering phakic refractive lens. The lens floats freely in the posterior chamber of the eye, behind the iris, and corrects vision of the patient but also prevents the buildup of intraocular pressure, cataract induction and iris pigment dispersion, possible risks with phakic lens implants. Because it is not rigidly fixed in eye tissue, the MPL has the ability to move with accommodation of the natural lens. The lens is designed to harness bouancy and the dynamics of the posterior chamber and iris to float the lens optic around the center of the pupil and maintain a gap between the MPL and the natural crystalline lens. Maintaining this gap helps to reduce the risk of cataract formation.

The unique design preserves the dynamics of the posterior chamber. The haptic members extend out from the optic and allow aqueous to flow around them. The lens shape is reminiscent of advanced rectangular parachute designs that use a central vent hole to improve stability. A small hole in the center zone of the optic allows aqueous humor to flow through it towards the anterior chamber, like air flowing through a parachute vent. This flow may help prevent a buildup of intraocular pressure and improve the self-centering of the floating lens.

The patent is pending in other markets and we hope to see those patents for this innovative technology granted in the future.