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World's first Pinhole Pupilloplasty Centre opens at Dr Agarwals Eye Hospital

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To advance tissue-preserving treatment for selected patients with corneal scars, irregular corneas and complex optical aberrations



The World's First Pinhole Pupilloplasty Centre was inaugurated at Dr Agarwals Eye Hospital, in the presence of Dr Amar Agarwal, Dr Manoj Khatri and many other important dignitaries, marking an important step in advancing access to innovative, tissue-preserving solutions for selected patients affected by complex corneal conditions.

The initiative also complements the ongoing 41st National Eye Donation Fortnight, reinforcing the importance of exploring innovative approaches to restoring vision while preserving precious donor tissue.

The dedicated centre will focus on Pinhole Pupilloplasty (PPP), a microsurgical technique, developed by Dr Amar Agarwal, designed to improve the quality of vision in appropriately selected patients with conditions such as corneal scars, irregular corneas, high corneal aberrations and certain post-surgical optical distortions.

The inauguration places renewed focus on an important challenge in ophthalmology, restoring useful vision to patients with complex corneal optics while preserving the natural cornea whenever clinically possible.

Instead of replacing the cornea, PPP modifies the eye's optical system by creating a small, precisely centred pupillary aperture. The smaller aperture helps block scattered and distorted light rays and allows better-focused rays to reach the retina. This pinhole effect can reduce the impact of higher-order optical aberrations and thereby improve functional vision and visual quality.

Importantly, the procedure does not require donor corneal tissue, making it particularly relevant in the context of the global shortage of donor corneas.

A landmark international survey on corneal transplantation and eye banking estimated that approximately 12.7 million people worldwide were awaiting corneal transplantation, while only one donor cornea was available for every 70 people in need. The survey further reported that approximately 185,000 corneal transplants were performed annually across 116 countries, highlighting the significant gap between global demand and donor tissue availability.