

# Personalised 'eyevatar' ray tracing technology unlocking HD vision

**90% of adult patients achieving '20/15' vision or more with next-generation laser eye treatment: NEW AUS RESEARCH**

More than seven million Aussie adults living with the common eye conditions, myopia (shortsightedness) and astigmatism (eye imperfection)<sup>1</sup> are set to benefit from today's launch of next-generation, customised laser eye technology.

According to new Australian research published in the Journal of Cataract & Refractive Surgery, next-generation, ray-tracing guided laser eye technology generates a personalised, multidimensional, 3D eye model, or 'eyevatar', enabling eye surgeons to **move beyond 20/20 vision\***, and in most cases, to achieve high-definition, or HD-vision.<sup>2</sup>

New research author, Ophthalmologist, and Director of PersonalEYES, Associate Professor Chandra Bala, Sydney – **Australia's first to have performed the procedure (more than 1,000 ray-tracing laser eye procedures to date)** – said the novel technology is poised to improve the diagnosis, treatment and outcomes for people living with myopia and astigmatism.

"For the first time, we are now offering **'personalised' laser eye correction, employing NASA Hubble Space telescope [which measures the size of the nearest, transiting, earth-sized planet] eye tracking technology**, that allows the laser to move faster than the eye, simultaneously detecting and accommodating for any eye movements like never before.

**"This advanced diagnostic technology directs 500 beams of light at the eye, measuring and collecting data from the reflected light with microscopic precision of 1/100,000 of a millimetre, to generate a personalised treatment plan,"**<sup>2</sup> said A/Prof Bala.

"This technology provides the most accurate method currently available for measuring and modelling the eye."

"Ten years ago, these calculations would have taken 24 hours. Now they take just **four minutes**," A/Prof Bala said.

"Given each set of eyes is unique, treatment should not be a 'one-size-fits-all' approach."

A/Prof Bala's independent research performed on 200 adult patients (400 eyes) living with myopia and astigmatism, from his everyday clinical practice, revealed **90 per cent** of those who underwent ray-tracing laser eye technology treatment achieved **20/15 vision (better than 20/20 vision)**; **50 per cent of patients achieved 20/12.5 vision**; while **8 per cent of patients achieved 20/10 vision**. Moreover, **98 per cent of patients reported feeling 'completely satisfied' with the treatment, with between 38-40 per cent of those who underwent ray-tracing guided laser eye technology treatment seeing 1 line or more on an eye chart better than what they ever did with glasses.**<sup>2</sup>

**\*20/20 vision represents average eyesight, whereby a person can see an object clearly from 20 feet (7 metres) away. Better than 20/20 vision, for instance, 20/15 vision, means a person can view an object from 20 feet away, with the same clarity as someone 15 feet (4.5 metres) away from the same object.**<sup>2</sup>

Clinician Scientist Ophthalmologist, Westmead Hospital, and Glaucoma Specialist, PersonalEYES, Clinical A/Prof Andrew White, Canberra, maintains there is a broad community misconception that 20/20 vision is 'perfect vision'. It is rather, 'average' eyesight that 90 per cent of patients who undergo standard LASIK Surgery for myopia can achieve.<sup>3</sup>

"In order to go beyond 20/20 vision, treatment must be customised to the eye. This Australian-first, next-generation, ray-tracing laser eye technology is making this possible.<sup>2</sup>

"The technology offers Australian adults living with common eye conditions, the opportunity to throw away their glasses and contact lenses for good, and to potentially, save money in the long-term,"<sup>3</sup> A/Prof White said.

Accounting firm Managing Director, finance teacher, soccer player, and father-to-two, Chris, 42, Sydney, lived with myopia and astigmatism for almost 20 years. Despite the many inconveniences he faced with wearing, frequently misplacing, losing and/or breaking his prescription glasses and having to get them fixed, and his eyes drying up with contact lenses, for almost two decades Chris failed to seek a permanent solution.

Chris wrestled with the upkeep, maintenance, and inconvenience of frequently losing, and/or forgetting where he placed his prescription glasses and sunglasses, and with his vision turning foggy while wearing contact lenses.

"Initially, glasses corrected my eyesight, but their novelty soon wore off. When I got contact lenses about a year later because I couldn't wear glasses while playing soccer, I found that after a while on the field, I'd get tired, and my vision would turn foggy.

"Eventually, I didn't want to rely on glasses or contact lenses any longer. I wanted the freedom to enjoy my outdoorsy, active lifestyle, without having to think about wearing my glasses or changing my contact lenses," said Chris.

Chris subsequently underwent laser eye surgery that permanently changed the shape of his cornea, effectively correcting his myopia and astigmatism.

Today, Chris is urging Australian adults to visit an eyecare professional for an eye health assessment without delay, and to determine the most effective treatment options best tailored to them.

**To find out whether you are suitable for ray-tracing guided laser eye technology, or to learn more, head to [www.personaleyesc.com.au](http://www.personaleyesc.com.au).**

### **About PersonalEYES**

PersonalEYES – The Vision Specialists – is Australia's first company to offer ray-tracing guided laser eye technology treatment. With 10 clinics in Sydney, regional New South Wales and Canberra, PersonalEYES offers comprehensive, accessible, and personalised eye treatments, including a 'lifetime of vision' patient care program.

### **About myopia and astigmatism**

Myopia, also known as short-sightedness, is a common eye condition that makes distant objects appear blurry. In myopic eyes, light fails to focus on the retina, and instead, focuses on the front of the retina, which may be due to enlarged eyes or thick lenses.<sup>4</sup> **Currently, 6.3 million Australians are living with myopia.<sup>1</sup>**

Astigmatism is a common eye condition in which vision is blurry or distorted.<sup>5</sup> Astigmatism occurs when the front surface of the eye (cornea) or the lens, is misshapen, causing the light to bend differently as it enters the eye.<sup>5</sup> **Currently, 1.4 million Australians are living with astigmatism.<sup>1</sup>**

Myopia and astigmatism share similar symptoms, including squinting to see clearly, eye strain, blurry vision, headaches, and in cases of astigmatism, having trouble seeing at night.<sup>4-5</sup>

### About refractive error

Refractive error is responsible for half of all eye conditions in Australia, including myopia and astigmatism.<sup>6</sup> Refractive error occurs when light passing through the eye does not focus properly, causing blurred vision, headaches, sore or tired eyes, and trouble focusing when reading, or looking at a computer.<sup>6</sup> Myopia usually presents pre-teens, and often becomes worse over time, suggesting early treatment is beneficial for preventing advanced myopia.<sup>7</sup>

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## AVAILABLE FOR INTERVIEW

EXPERTS	
<b>A/Prof Chandra Bala</b>	New ray-tracing guided laser eye technology research author, Ophthalmologist & Director, PersonalEYES, <b>SYDNEY</b>
<b>Clinical A/Prof Andrew White</b>	Clinical Scientist Ophthalmologist & Glaucoma Specialist, PersonalEYES, <b>CANBERRA</b>
AUSTRALIANS LIVING WITH MYOPIA & ASTIGMATISM	
<b>Chris, 42</b>	Accounting firm MD, soccer player & father-to-two who wrestled with blurry vision for almost two decades, <b>SYDNEY</b>
<b>Albert, 32</b>	Entrepreneur & business owner who lived with myopia & astigmatism for more than a decade, <b>SYDNEY</b>
<b>Maddie, 21</b>	Aspiring flight attendant who struggled with poor vision for more than a decade, <b>SYDNEY</b>
<b>Erin, 32</b>	Recruiter who sought corrective treatment for her myopia & astigmatism spurred by a car accident, <b>SYDNEY</b>
<b>Jodie, 31</b>	HR specialist & yoga & pilates enthusiast who struggled with deteriorating eyesight for almost a decade, <b>SYDNEY</b>
<b>DIGITAL MEDIA KIT</b>	<a href="http://www.personaleyedigitalmediakit.com.au">www.personaleyedigitalmediakit.com.au</a>
<b>MEDIA CONTACTS</b>	<b>Kirsten Bruce &amp; Millie Chamberlain, VIVA! Communications</b> <b>M 0401 717 566   0404 568 615</b> <b>T 02 9968 3741   02 9968 1604</b> <b>E <a href="mailto:kirstenbruce@vivacommunications.com.au">kirstenbruce@vivacommunications.com.au</a>   <a href="mailto:millie@vivacommunications.com.au">millie@vivacommunications.com.au</a></b>

### References

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