

# Melbourne surgeon's technique recognised as improving treatment of astigmatism

A leading international journal has recognised a Melbourne-based surgeon as one of the world's leading pioneers of cutting-edge laser eye surgery techniques.

The results of Dr Noel Alpines' groundbreaking clinical trial on treating astigmatism have been published in the *Journal of Cataract & Refractive Surgery* (JCRS), the peer-reviewed journal of the American Society of Cataract and Refractive Surgery and the European Society of Cataract and Refractive Surgeons.

Optometrist Mr George Stamatelatos co-authored the paper with Dr Alpines.

The clinical trial demonstrated that current laser eye surgery techniques can be further improved. The Alpines study showed that when vector planning is used in conjunction with wavefront-guided laser treatment (the most advanced treatment myopia, astigmatism and hyperopia), patients enjoyed better vision under low-light conditions and enhanced quality of vision overall than eye surgery using wavefront technology alone.

The outcome suggests that people wearing glasses or contact lenses, who

have been considered unsuitable for laser eye surgery, may soon be able to access the benefits of this treatment and ultimately gain better vision. In an accompanying editorial, *JCRS* recognises the technique, which is not yet available to patients, can improve the way astigmatism is treated along with patient outcomes.



George Stamatelatos and Noel Alpines

"The study shows the already excellent process of laser treatment can be made even more effective. We are extremely pleased with the results achieved. Wavefront technology is currently the most advanced in laser

technology, but when combined with vector planning we found that patients' treatments were further enhanced," Dr Alpines, who is an Associate Fellow at the University of Melbourne, said.

The study was conducted over 12 months. It tested the results of combining the two laser eye surgery techniques: wavefront technology and vector planning. Fourteen people and 21 eyes were involved in the study and patients were treated with a combination of wavefront and vector planning and/or wavefront alone.

The vector-planning technique is likely to be taken up by laser eye surgeons once laser manufacturers agree to integrate the technique into current-generation laser eye machines.

Out of the six patients in the study who had wavefront treatment in one eye and wavefront and vector planning treatment in the other, two actually changed their preferred eye to the one that received the combined treatment.

Ms Loretta McNaulty was involved in Dr Alpines' study. A full-time

bookkeeper, Ms McNaulty said the combination of techniques has produced the best vision outcomes. "The surgery has made a massive difference to my quality of life. Prior to surgery my contacts really used to irritate my eyes after a long day. Now when I wake up each morning I can clearly read the time on my alarm clock, it's the little things I've noticed that have made such a difference," she said.

Dr Alpines developed the groundbreaking vector-planning technique specifically to treat patients with astigmatism. Vector planning enables patients previously deemed unsuitable for laser eye surgery access to this treatment.

The vector-planning technique allows surgeons to more exactly target the irregularities in a patient's eye. After self-funding a 10 year study, the technique was globally recognized last year by the ophthalmology profession, when the results of another study relating to people with keratoconus were published in the *Journal of Cataract and Refractive Surgery*.

Since developing the vector-planning technique Dr Alpines has successfully treated more than 15,000 eyes.