

Walking the walk: How laser blended vision for presbyopia improved my vision and quality of life

By Jiang Haixiang MD

CASE HISTORY

As an ophthalmologist with low-grade myopia, I am one of those eye surgeons who continued to wear glasses even though other viable treatment options were available. My rationale for not undergoing LASIK or any other surgical procedure to correct my refraction was that my low myopia would help to alleviate the symptoms of presbyopia when I eventually reached my forties or fifties. However, as I discovered there is a world of difference between theory and reality. As I got older and as the effects of presbyopia really took hold, I found that my myopia no longer brought any significant relief. I was frequently obliged to remove my glasses to focus on near vision tasks and it became more problematic to pursue some of my hobbies with any degree of comfort.

I had reached a crossroads and knew that I had to take action. I wanted to turn the clock back a little and regain the quality of life that I had taken for granted before the loss of accommodation became a serious problem. As a practising cataract and refractive surgeon, there was also an important principle at stake: how could I advocate that my own patients undergo surgery for presbyopia when I was not willing to follow my own advice and accept the same surgery for myself? If I really believed that surgery was the best option for them, then why not for me? It was time to stop talking, to "walk the walk" and take my own medicine.

THE CASE FOR BLENDED LASER VISION

There is no shortage of potential solutions for presbyopia on the market, including corneal inlays, intraocular lenses (IOLs), monovision, and a number of other options. As a relatively young patient without any problems of cataract, my choice was oriented towards corneal refractive surgery rather than clear lens exchange and IOL implantation. PRESBYOND (Carl Zeiss Meditec AG, Jena, Germany), a binocular laser vision correction approach using the MEL 90 excimer laser with its option CRS-Master (both Carl Zeiss Meditec AG, Jena, Germany), seemed to me the ideal solution for my particular profile and requirements.

I opted for this approach for a number of reasons. Firstly, I already use ZEISS technology in my practice every day and trust its performance and reliability. I was already familiar with using a monovision approach and had achieved satisfactory results in presbyopic patients

with that modality. With PRESBYOND, I felt confident that I could achieve even better outcomes: the sophisticated wavefront laser profile expands the depth of focus for each eye while reducing dependence on the patient's pupil size for optical performance. I was also very comfortable choosing PRESBYOND because my surgeon was Dr Xingtao Zhou, M.D., PhD, professor of ophthalmology and director of Eye & ENT Hospital at Fudan University, who has been a respected colleague of mine for many years and one of the early adopters of PRESBYOND technology. I discussed my requirements with him before the surgery and felt confident that he could deliver an excellent result that would correspond to my expectations. Furthermore, since it was my intention to offer PRESBYOND to my own patients, this represented a perfect opportunity to test the technology personally. It is a far more persuasive viewpoint when I can tell a patient that I have had the same operation myself and am very happy with the outcome. It is reassuring for them to know that they are not simply being advised a particular treatment as a marketing strategy and that the surgeon is speaking from personal experience.

SURGICAL DETAILS

My preoperative refraction was -1.00 D sphere and -0.75 D cylinder for the right eye and -1.75 D sphere and -0.75 D cylinder for the left eye. The surgery was bilateral with a target refraction of -1.25 D undercorrection in the non-dominant eye and plano (0.0 D) in the dominant eye. The procedure was performed using the VisuMax femtosecond laser for the flap and the MEL 90 excimer laser to create a customised ablation profile (called PRESBYOND) with proprietary software for the CRS-Master workstation (all Carl Zeiss Meditec AG, Jena, Germany). The surgery itself was very smooth and painless and lasted about 10 minutes for both eyes.

The postoperative vision was very satisfactory and visual rehabilitation was rapid. At one day postoperatively I could read messages on my mobile phone without any issues. Distance visual acuity was also very sharp. Overall, the quality of vision after surgery was satisfactory under all lighting conditions. I was very impressed by the speed of my visual recovery and was able to return to work just two days after the surgery. There was almost no glare and I experienced no trouble driving at night. Although I had not specifically discussed the possibility of night vision problems with Dr Zhou before the sur-

gery, I do have a relatively large pupil which he took into account in the treatment plan and which ensured that I would experience no discomfort in low-light conditions after surgery. Three months after surgery, the uncorrected visual acuity for my dominant eye was 1.0 (20/20) and 0.8 (20/25) for the non-dominant eye. Overall, I feel very satisfied with the outcome. If, however, I was to highlight one area that could be improved upon, it would probably be my near vision in dim light conditions. My requirements for sharp near vision are probably slightly higher than most people, while the quality of my far vision seems to exceed my requirements at present. As with any refractive procedure, there is always a degree of compromise to be found for the range of vision obtained at near, far and intermediate distance points. It is very important to express preferences very clearly and explicitly to the surgeon before the operation to ensure that the right balance is found that corresponds fully to the wishes of the patient and their lifestyle requirements.

IMPROVED VISION AND QUALITY OF LIFE

I am very happy that I chose this operation. In fact, my only real regret is that I didn't take action sooner to tackle my presbyopia and free myself once and for all from the constraints of wearing eyeglasses. The benefits are not just to my quality of vision on a day-to-day basis – PRESBYOND has also made a major difference to my psychological well-being. Not wearing glasses is liberating and so much more convenient. Reading is now a real pleasure and is much better than when I was wearing glasses. I can now wear sunglasses without having to worry about prescription lenses. I can play basketball and drive motorcycles and I am much more eager to try different sports. In short, PRESBYOND has put a spring back in my step and my new vision makes me feel more vigorous and enthusiastic about all aspects of my life.

My experience with PRESBYOND also makes me keen to be able to offer the same benefits to my patients. As my preoperative myopia was relatively low, I believe that other individuals with higher ametropias will be even more satisfied after the operation. I would also encourage patients who are not suffering symptoms of presbyopia yet to also consider the benefits of this technology. The low myopic correction of the non-dominant eye has very limited impact on distance vision and is very well tolerated by a large percentage of patients. This makes PRESBYOND an ideal match for selected myopic, hyperopic or astigmatic patients who may not be presbyopic yet but who are seeking good vision at near, intermediate and far, without the use of glasses.

CONCLUSION

In summary, I believe my personal success and satisfaction with PRESBYOND will give patients added confidence and trust in the procedure. I think that there is definitely a growing demand in China for this kind of presbyopic treatment. The hospital where I work is currently reviewing a proposal to add PRESBYOND to our

clinic's range of services, so I am optimistic that we will be able to offer it very soon to our patients. In the future, my goal is to develop presbyopia correction surgery into the technical specialty of our hospital. This will represent a valuable addition to our refractive practice and serve to promote the reputation of our hospital nationally and internationally.

THE SURGEON'S VIEWPOINT

Dr Xingtao Zhou, M.D., Ph.D



I have been performing procedures with PRESBYOND for over two years now and have been very satisfied with the outcomes obtained using this technique. The treatment is safe and predictable with a high level of patient satisfaction. Introducing PRESBYOND into my clinic was a smooth process thanks in part to the onboarding support offered by ZEISS in terms of training and backup. For surgeons who are just starting with PRESBYOND, I would offer a few pearls to reduce the learning curve and ensure optimal outcomes from the get-go. First, rigorous preoperative biometry is essential as this is the foundation stone upon which the refractive plan for each patient is built. Take multiple measurements using the full complement of equipment at your disposal to obtain precise and accurate data for each patient.

I would also advise simulating a monovision test before proceeding with the surgery. Any patient who finds the simulated vision bothersome or who expresses serious doubts should be a red flag for the surgery. Some patients cannot tolerate monovision, so it is better to try to identify them before they undergo surgery. Spending adequate chair time with the patient before the surgery is very important. They need to appreciate the strengths and weaknesses of any given procedure and to understand that some tradeoffs are involved in treating the symptoms of their presbyopia. The key is to manage patient expectations and present them with a realistic treatment plan that will more than satisfy their visual needs according to their professional and lifestyle requirements.

Dr Jiang Haixiang MD is founder and President of Xi'an Haixiang Eye Hospital in Shanxi, China. Dr Jiang is an experienced ophthalmic surgeon specialising in refractive surgery, including small incision lenticule extraction (SMILE) and intraocular lens implantation for a variety of ocular conditions. He has completed over 40,000 refractive surgery cases over the course of his career and is committed to using only the most advanced technology to get the best possible results for his patients.

