

## Growing refractive surgery

One of the best ways to grow refractive surgery globally is to grow each refractive surgery practice, thereby bringing the benefits of refractive surgery to more people. This is the mantra of the Refractive Surgery Alliance, a global alliance including some ophthalmologists from India, who are endeavoring to make this happen through collaboration. We have several ideas to make this happen and I am delighted to be able to share some of them with you.

Let's first start with the facts:

- In 2010, the World Health Organization stated that there were 285 million people who are visually impaired, of whom 39 million were blind. By far the biggest cause of vision impairment was that of uncorrected refractive error at 42% and cataract at 33%. For reference, glaucoma made up 2% and macular degeneration and diabetic retinopathy 1% each. Hence, the biggest burden by an awfully long way was that of refractive surgery in the form of cataract and uncorrected refractive error
- In 2019, the facts are even more stark<sup>[1-3]</sup>: Globally, at least 2.2 billion people have a vision impairment or blindness, of whom at least 1 billion have a vision impairment that could have been prevented or has yet to be addressed
- These 1 billion people include those with moderate or severe distance vision impairment or blindness due to unaddressed refractive error, as well as near vision impairment caused by unaddressed presbyopia
- Globally, the leading causes of vision impairment are uncorrected refractive errors and cataracts.

One could simply say "just give spectacles or contact lenses to those with refractive error" but unfortunately, this is easier said than done. Socioeconomic conditions in many parts of the world do not make it conducive to wearing contact lenses and in other parts of the world spectacles are stolen or sold to buy food.<sup>[4]</sup> Can you imagine if a similar venture to the Himalayan Cataract Project, the Cataract Camps in India or the Orbis project existed for refractive surgery. Imagine the difference we could make to people's lives while they are young by providing them with vision. It would change the course of their futures and those who depend on them.

One of the biggest challenges today is the training of refractive surgeons. Young doctors can spend anything from 3 to 7 years in post medical training, specializing ophthalmology and at the end of it all, not having seen one refractive surgery case or one toric intraocular lens (IOL) or one multifocal IOL. Hence, the training of refractive surgery is generally poor and many of our colleagues are unaware of how much this specialty has advanced and that today in fact, laser vision correction is safer than wearing contact lenses.<sup>[5-7]</sup> We, therefore, have a duty to educate our peers in ophthalmology and the rest of medicine and then a specific duty to start training world-class refractive surgeons so that every procedure done, anywhere in the world, is a safe and appropriate procedure and risks are minimized.

Daniel Kahneman is a Nobel prize-winning author and behavioral economist who writes about a theory he calls "loss aversion."<sup>[8]</sup> This refers to people's tendency to prefer avoiding

losses to acquiring equivalent gains.<sup>[9,10]</sup> This is a widespread psychological phenomenon and something that the refractive surgeon must be aware of. If you consider cataract surgery, the management of macular degeneration and glaucoma and diabetic retinopathy, these have all shown spectacular results in limiting blindness but are all about negating loss and this is why they are covered by insurance or the state. We all collectively pay taxes or insurance premiums to cover the costs should one of us experience this loss. Refractive surgery is in a different category altogether. People are paying for this with their own hard-earned income and they are pursuing gain. Their treatment is not about restoring loss, but rather about improving performance. This is a quite different mindset and a very much more difficult patient to appease as their demands are typically very high. In addition, their expectations are not always aligned with the doctor's but rather with what they perceive in their own minds to be success. It is therefore imperative that patient expectations are well dealt with. Refractive surgery is so different from general ophthalmology that we believe it should be its own specialty. Of course, one would first have to do ophthalmology to develop the basic skills but then to succeed in a performance-based, direct pay environment in a rapidly evolving technological environment and a field that generally relies on high volume in order to offset costs, this specialty training is required to ensure that we have surgeons able to deliver excellent results at scale. We can only start growing refractive surgery to its full potential once we can deliver excellent results at scale.

If we look at the problems at hand, namely, there not being sufficient training facilities and fellowships globally and this huge unmet need for vision correction, we may have a solution that suits all parties equally well and benefits all. The College of Refractive Surgery (due to be launched this year) is looking to put together a comprehensive refractive surgery curriculum over 2 years with all the core training, the fundamentals required for refractive surgery including surgical skills as well as business skills and hands-on training. The hands-on training will include visiting global leaders who are at the height of their careers and observing how they perform certain procedures and run their practices and then performing the surgeries under guidance from highly experienced colleagues on patients who otherwise could never afford refractive surgery. It is an enormous dream and it is not easy to change the world, but it is doable. If we, at the end of our lives, had to sit back and think that only the privileged ever received vision correction surgery while we had it in our hands to deliver results at scale given today's incredible technology, I think we will all feel like we failed humanity. The time for refractive surgery to become primary care for vision correction is overdue. It is going to happen; the question is simply when. There is no doubt that the strategy also needs to include myopia prevention. Ultimately the question to ask is "What will it take to make this happen?" It will take physician leadership and many of those leaders are reading this editorial. We need to collectively make this our mission, stop competing with one another, and stop advertising technology and confusing our patients. We should rather work toward ever-increasing collaboration so that we can bring the benefits of refractive surgery to more people and help the world to see without the need for prosthetics.

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Access this article online	
<b>Quick Response Code:</b>	<b>Website:</b> www.ijo.in
	<b>DOI:</b> 10.4103/ijo.IJO_1779_20

**Cite this article as:** Cummings AB. Growing refractive surgery. *Indian J Ophthalmol* 2020;68:2652-3.

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Arthur Cummings is a South-African born and trained ophthalmologist who relocated to Ireland in 1998. He practices as a cataract and refractive surgeon at the Wellington Eye Clinic in Dublin. Arthur is involved in clinical studies as investigator and serves on the medical advisory boards of more than 10 ophthalmic companies. He is the immediate past-President of AECOS Europe and the Global Ambassador of the Refractive Surgery Alliance, a group dedicated to growing refractive surgery through collaboration. He serves as associate chief medical editor of *Cataract & Refractive Surgery Today Europe* and is a reviewer for numerous journals including *JRS* and *JCRS*. He has published more than 120 articles in peer-reviewed and trade journals, 12 book chapters, co-edited 2 textbooks and delivered more than 450 lectures at international meetings. In 2018 he was ranked in the Top 100 most influential ophthalmologists worldwide by readers of *The Ophthalmologist*. In both 2019 and 2020 he was ranked in the Top 100 Ophthalmologists and among the Top 10 Emerging Leaders in Ophthalmology globally by the same publication.