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REFRACTIVE SURGERY TRAINING AND

FELLOWSHIP OPPORTUNITIES

An update on the World College of Refractive Surgery & Visual Sciences' efforts and initiatives.

It is said that those who adapt best to change win the race. It is also said that the only constant in life is change. This article describes why I think the changes that the World College of Refractive Surgery & Visual Sciences (WCRS) can influence are valuable.

BLACK BOX THINKING

Most of us do not think twice about boarding an airplane, and we consider flying to be exceptionally safe. We are so comfortable flying that we can fall asleep before the plane takes off.

Both airlines and airports have strict safety protocols and regulations designed to ensure passenger and crew safety. Aircraft are designed with multiple redundancies and safety features to reduce the risk of accidents. Pilots are highly trained and experienced in flying and safety procedures. They must complete a minimum number of flight hours and pass a series of tests before they can be certified to fly, are required to maintain adequacy with the latest safety protocols and procedures, and undergo regular medical examinations and psychological evaluations to ensure they are fit to fly.

Airlines and airports subscribe to something called *black box thinking*,¹ which encourages organizations to take a proactive approach to safety and risk management. Black box thinking urges individuals to learn from their mistakes and failures rather than simply try to avoid them. It prompts organizations to analyze data, identify patterns, and develop strategies to prevent future incidents. It also encourages organizations to be open and honest about their mistakes and use them as learning opportunities.

THE CASE FOR STANDARDIZED REFRACTIVE SURGERY TRAINING

Imagine a large ophthalmic conference in the heart of a European city that has an excellent airport. More than 10,000 delegates from all over the world arrive on 3,500 different flights and will depart the city in the same fashion. The pilots have completed standardized training, and all the flights land safely.

Ten percent of the flights have pilots who have undergone vision correction surgery. The odds are that those 350 ophthalmologists followed 350 paths to becoming refractive surgeons. Would we be okay if airline pilots did their own training until they felt comfortable or confident? I think not. Standardization is the way to

WCRS FELLOWSHIP FORMAT

- ▶ **Step No. 1: Formal curriculum**
 - Formal didactic program
 - Journal club to cover landmark articles and current concepts
 - Technology and innovation training in dedicated 3-day courses (lens, lasers, and diagnostics) as part of the Refractive Surgery Alliance Master of Refractive Surgery program
- ▶ **Step No. 2: Surgical minimums for all procedures with surgical video review**
- ▶ **Step No. 3: Research requirements**
- ▶ **Step No. 4: Presentation requirements**
- ▶ **Step No. 5: Business and practice development training**
- ▶ **Step No. 6: Board examination**

increase safety and public confidence in the procedures refractive surgeons perform.

Enter the WCRS.

CREDENTIALING THROUGH THE WCRS

The WCRS is the only global organization that provides credentialing (ie, certification and accreditation) in refractive surgery and recognizes an international standard curriculum. By expanding the availability of trained refractive surgeons, the organization's efforts can address the needs of more than 1 billion people globally who experience unaddressed refractive error and cataract, the two leading causes of preventable blindness.²

The WCRS functions as a specialty board and an umbrella organization supporting education, training, and credentialing in refractive surgery. It can add value to ophthalmic organizations, courses, programs, and selected residency programs for the promotion and expansion of refractive surgery globally. The WCRS collaborates with existing organizations by recognizing their coursework as part of the pathway to fellowship certification in refractive surgery.

There are no plans for the WCRS to host ophthalmic conferences because there are already enough of these. Instead, prospective fellows are directed to sessions, courses, and wet labs at existing meetings that are accredited by the WCRS and will count toward the required curriculum points.

IT IS TIME FOR REFRACTIVE SURGERY TO BE ITS OWN SPECIALTY

BY RADHIKA RAMPAT, MBBS, BSC(HONS), FRCOPHTH



More than 90% of preventable blindness is caused by untreated refractive errors and cataract.¹ The former accounts for a far greater percentage of cases. More refractive surgeons are needed to address this problem. Reflecting on my experience that culminated in my position as an associate academic director for the Refractive Surgery Alliance (RSA) Fellowship Network, the world's largest refractive surgery fellowship program and part of the World College of Refractive Surgery & Visual Sciences (WCRS), it is obvious that barriers to entering the field must be broken, training improved, standards provided, and research supported.

MY FELLOWSHIP EXPERIENCE

I sought out and was fortunate to be accepted as a research fellow to one of the world's best refractive surgeons, Damien Gatinel, MD, PhD, at the Rothschild Foundation Hospital in Paris in 2018. I am also lucky to have received 2 years of hands-on refractive surgery training as a cornea, cataract, and refractive fellow at Moorfields Eye Hospital NHS Trust in London under accomplished refractive surgeons, including Romesh Angunawela, BM, MD; Mark Wilkins, MA, MBBS; and David Gartry, MD.

I eagerly followed the RSA and enjoyed presenting during one of its webinars in 2021 (Figure 1). I later met Guy Kezirian, MD, MBA, chair of the RSA's executive committee (Figure 2), at the American-European Congress of Ophthalmic Surgeons (AECOS) Europe meeting in Belgium in 2022.

I am grateful for my experiences but would like to make luck less of a factor in refractive surgery training. This desire motivates my work with the RSA.

THE RSA FELLOWSHIP NETWORK

The RSA's approach to training refractive surgeons is long overdue. It follows a formal curriculum and includes biweekly didactic conclaves with world experts; high-volume surgical training by expert preceptors at private centers; research supported by a full-time statistician; journal clubs; presentation requirements; observerships; and access to additional courses, including the Physician CEO program at the Kellogg School of Management at Northwestern University and the Forefront Refractive Surgery Course with Dan Z. Reinstein, MD, MA(Cantab), FRCSC, DABO.

In 2021 to 2022, its first year, the RSA Fellowship Network had nine fellows from the United States, Germany, and South Africa. The following year, the network expanded to 20 fellows and additional countries. I am excited to see it grow. I believe our fellows—certified by the newly formed WCRS—will be the future leaders in refractive surgery.

CONCLUSION

I was lucky in my fellowship training for refractive surgery, but the training of world-class refractive surgeons should not come down to luck. It is time for refractive surgery to be its own specialty. The RSA Fellowship Network and WCRS can help ensure the rigorous training and development of surgeons who can pay it forward by working toward eliminating preventable blindness due to untreated refractive errors.

1. Bettadapura GS, Donthi K, Datti NP, Ranganath BG, Ramaswamy SB, Jayaram TS. Assessment of avoidable blindness using the rapid assessment of avoidable blindness methodology. *N Am J Med Sci.* 2021;4(9):389-393.

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Figure 1. Dr. Rampat participated in the RSA's webinar on multifocal and extended depth of focus IOLs in January 2021.



Figure 2. From left to right, Dr. Rampat; Guy Kezirian, MD, MBA, chair of the RSA's executive committee; and Helen K. Wu, MD, academic director of the RSA Fellowship Network. Brett Mueller, DO, PhD, is also part of the RSA fellowship leadership team.

The WCRS has an accredited fellowship program (see *World College of Refractive Surgery & Visual Sciences Fellowship Format*, pg 51). Virtual conclaves held every couple of weeks provide a forum for the discussion of cases, didactic lectures, and collaboration. At the end of the fellowship program, fellows are assessed in an online examination.

The fellowship program offered by the Refractive Surgery Alliance was the first to be accredited by the WCRS (for more on the program, see *It Is Time*

for Refractive Surgery to Be Its Own Specialty, pg 52). The WCRS also accredits facilities and provides a seal of quality for centers that meet the criteria and seek the organization's approval.

CONCLUSION

The greatest contributor to visual impairment globally is uncorrected refractive error. It represents almost 45% of the total burden. Cataract represents an additional 35% to 40%, and age-related macular degeneration and glaucoma constitute 2% each.³

Less than 3% of the 280,000 total ophthalmologists globally identify

as refractive surgeons. These individuals have a lot of work to do. There is a clear need to train more refractive surgeons, standardize the curriculum, and increase the average standard of training for all refractive surgeons. The WCRS aims to achieve these goals. ■

1. Syed M. *Black Box Thinking: Why Most People Never Learn From Their Mistakes—but Some Do*. Portfolio/Penguin; 2015.

2. World report on vision. Executive summary. World Health Organization. Accessed February 17, 2023. 2019. <https://apps.who.int/iris/bitstream/handle/10665/328721/WHO-NMH-NVI-19.12-eng.pdf>

3. GBD 2019 Blindness and Vision Impairment Collaborators on behalf of the Vision Loss Expert Group of the Global Burden of Disease Study. Causes of blindness and vision impairment in 2020 and trends over 30 years, and prevalence of avoidable blindness in relation to VISION 2020: the Right to Sight: an analysis for the Global Burden of Disease Study. *Lancet Glob Health*. 2021;9:e144-160.