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Guest Editorial

Ophthalmology residency programmes must teach manual small incision cataract surgery!

Neto Rosatelli[1]

[1]Department of Ophthalmology, Surgical Optics Division, Paulista School of Medicine, Federal University of Sao Paulo - Brazil (UNIFESP), São Paulo, Brazil.

Cataract is the leading cause of treatable blindness worldwide.[1,2] Many programmes have been established to address this challenging issue. VISION 2020 was a global initiative programme launched by the World Health Organization and the International Agency for the Prevention of Blindness with the goal of eliminating avoidable blindness by 2020. This was followed by a Global Action Plan for Universal Eye Health in 2014, which redefined the previous VISION 2020 programme, and aimed to reduce avoidable visual impairment as a global public health issue by offering comprehensive eye health care (including eye health promotion, prevention, treatment and rehabilitation), integrate eye care into the general health systems and provide universal access to eye care services.[3,4] Cataract surgery was considered a condition of priority.[4]

Despite these and many other efforts, cataract blindness continues to grow. The backlog increases yearly with population growth and ageing due to greater life expectancies, especially in the developing countries.[2,5] A big hurdle is cost.[6,7] Cataract surgical rate (CSR) is the number of cataract operations performed in 1 year per million population.[8] CSR is a measure of cataract services and is directly associated with economic indicators, signalling the pronounced influence of resource availability on healthcare delivery.[9,10] Surgeon and trained personnel availability are another limiting factor.[7,11] It is essential to devise ways to deliver low cost but high-quality cataract services and promote capacity development, especially in the developing countries, to meet cataract surgical needs with limited resources.[9]

Cataract surgery is very difficult to learn and also very challenging to teach. It is the most performed ophthalmological surgical procedure and accounts for a sizable part of the practice for the majority of ophthalmologists.[12] It is an absolute necessity for ophthalmologists to be proficient in it.

Virtually, all ophthalmologists-to-be have first contact and begin to do surgery in an ophthalmology residency programme, which is their foremost opportunity to learn and train in ophthalmic surgery under the orientation and supervision of an experienced teacher. Phacoemulsification is the most common surgical procedure performed by residents during training.[13] Most residency training programmes worldwide focus little on manual cataract surgery. When they do, it is usually traditional limbal incision extracapsular cataract extraction (ECCE), which has many disadvantages compared to manual small incision cataract surgery (MSICS). MSICS can be seen as an evolved form of ECCE, having undergone many refinements and improvements in its surgical technique, providing much better surgical outcomes, being comparable to phacoemulsification in visual outcome and complications rate and[14-16] also surpassing phacoemulsification in many specific eye conditions such as hard cataracts, compromised zonules and low corneal endothelial cell count for example. It has been observed that the complication rate with phacoemulsification for trainee surgeons is higher than with MSICS, suggesting that the latter may be a safer procedure to initially learn for inexperienced surgeons.[17]

Early introduction of cataract surgery during residency training is beneficial in decreasing the risk of major complications occurrence.[18] Furthermore, sufficient surgical experience is mandatory in residency programmes.[13] The cataract surgery learning curve is steep, demanding a significant number of surgeries under supervision for the ophthalmic resident to safely traverse this stage of learning.[19] The total number of cataract surgeries performed per resident in residency programmes varies significantly. Studies have shown and proposed that 300 are the minimum number of performed cataract surgeries to achieve proficiency and have a low complication rate of

***Corresponding author:** Neto Rosatelli, Department of Ophthalmology, Surgical Optics Division, Paulista School of Medicine, Federal University of Sao Paulo - Brazil (UNIFESP), São Paulo, Brazil. rosatelli@me.com.

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<2%.[20,21] Yes, 300 surgeries. This is a lot, and achieving that number gets more challenging as the years pass. Cataract surgical training is complex and time consuming,[13] also presenting problematic costs, ethical and legal issues.

Some strategies can improve and optimise surgical training, speeding up the achievement of some necessary surgical skills. One of them is specific training in optimal hand positions to hold and use surgical instruments in an informed manner to improve surgical outcomes.[22] Multiple surgery simulation-based methods are available, such as virtual systems, model and animal eyes and wet laboratories, which have shown to be of great value and cost effective while increasing patient safety.[13,23-25]

Ideally, residents should have an adequate proficiency level when they finish residency.[12] Yet, surgical competency levels achieved by residents during training present significant variation among residency programmes. Providing MSICS proficiency to residents should be a fundamental goal of residency programmes. A cataract surgeon is not complete without manual cataract surgery skills.[14] Moreover, the lower cost and less technology and dependency of MSICS indicate that it plays a fundamental role in modern cataract surgery,[11,16,26-28] in which costs and surgical needs increasingly grow. Eliminating cataract blindness worldwide is proving to be more and more a formidable challenge.[11] By training MSICS in every residency programme, this goal can be more within reach. The Journal of Cataract Surgery and Research in Ophthalmology can play a significant role in this quest by raising awareness of all those benefits MSICS offers.

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