

A review of “cataract surgery teaching”

Um comentário sobre o “ensino de cirurgia de catarata”

Dear Editor:

I read with great interest the editorial entitled “Cataract surgery teaching” by Soriano⁽¹⁾, wherein he described features of surgical training in Brazil. We congratulate the author on his extensive experience and ideas. However, I would like to offer my thoughts regarding this editorial as cataract surgery teaching is one of our research interests.

We agree with Dr. Soriano that, in accordance with scientific methodology, goals should be established and results should be analyzed with the use of progress indicators and complication rates, such as evaluation elements. A clinical study of training surgeons at the University of São Paulo was recently published, in which senior residents were reportedly able to achieve an acceptable complication rate with proper training and supervision⁽²⁾.

The “backward” methodology, which involves dividing surgery into five stages, is an excellent proposal; the instructor performs the first 4 stages and the student performs the last stage. We consider capsulorhexis and the initial fracture of the lens nucleus to be the most difficult and compromising steps of cataract surgery⁽³⁾.

The balance between quantity and quality will always be a dilemma. However, we emphasize the importance of theoretical knowledge in optimizing practical training. In the phacoemulsification technique, a very specific technology is used where physical concepts of fluids and vectors are important in almost all surgical maneuvers. Therefore, we hypothesize that, beyond study through textbooks, novice surgeons should receive at least 60 h of theoretical class before starting to effectively operate. These should include videos with commentary and interactive explanations of the functioning of the phacoemulsification machine, lens nucleus fracture techniques, and the management of difficult cases. Thus, the quality and safety of operations are improved, with fewer procedures required to achieve self-sufficiency^(3,4).

In 2011, we evaluated the quality of cataract surgery teaching at 11 university hospitals in Brazil⁽⁴⁾. We ascertained that, on an average, the number of phacoemulsification procedures performed by residents at the end of training programs at the studied hospitals was approximately 130 surgeries, which is an excellent quantity. We then evaluated the quality indicators of surgical treatment and observed that all researched services had safe and precise phacoemulsifiers.

The viability of modern technology use in public hospitals has been previously reported⁽⁵⁾. The majority of surgeries were performed under the supervision of an expert surgeon. Nevertheless, when we evaluated theoretical load, another important indicator of surgery teaching quality, the result was below expected. We observed that the majority of teaching services offered less than 10 h of specific theory. We considered that the sophistication and improvement in this surgical technique comprised knowledge of phacoemulsification apparatus, physical and fluidic parameters, and mechanical force associated with surgical maneuvers. Accurate programming and control of phacoemulsifier functions are vital for precise and safe surgery. Careful choice of the technique used to break the nucleus and understanding of the involved maneuvers are essential for a safe and reproducible surgical strategy. Many of these valuable sources of information are not described in text books or may not be understood without special didactic resources aids, such as movies and animation, besides the possibility of a response to casual doubts.

Therefore, we believe that the current teaching of phacoemulsification provided to surgical trainees in Brazil is adequate. Nevertheless, a greater investment in theoretical information to improve training quality is yet to be observed, although the majority of university hospitals have safe and adequate surgical orientations. Furthermore, there is a lack of extra time in training curricula and the availability of motivated expert surgeons able to teach theory limiting further improvements in the sophistication and safety of surgical training.

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