

An Approach to Surgery

“Chance favors the prepared mind”

- Louis Pasteur

Can a surgeon attain their highest level of surgical success and progress through a keen awareness of surgical principles? Consider the example of cataract surgery in a patient with a small pupil and pseudoexfoliation. A multitude of options are available. In this case, the “best” approach has historically been one of personal preference. A specific mindset and an approach to discovery are offered as my preferred response to the aforementioned case. Outcome measures serve to objectify the results.

To me, Louis Pasteur’s quote applies to surgery. We will likely perform a better surgery when we prepare for it than when we do not. Iris hooks and other techniques that we rarely perform would likely be less proficiently done than those we do on a regular basis. In the example of the rhexis in the small pupil case, the advantage of the overlying iris may serve as a stabilizer to the rhexis.

Consider the experiment where a sheet of paper lying on a table is torn with two hands separated by 6 inches compared to one torn by two hands where one hand flattens the paper to provide guidance and counter-traction. The paper is easier to tear and the resulting tear is easier to guide when two hands are placed closer to the tear and when the overlying hand is used as a stabilizer. Through independent study in external simulators, I applied this to the performance of a rhexis in the small pupil example and reduced my vitreous loss and complication rate as a result.

The case of the small pupil and pseudoexfoliation lends itself to numerous other examples of changes. While the changes themselves are less important, the discovery method and mindset produce two very interesting results. First, the discovery itself leads to a technique the surgeon will likely find more efficient and will therefore apply to “routine” cases. Second, the surgeon will eventually master this technique as it is used more frequently. Since the technique is well suited for the small pupil case, the challenge of the small pupil case is drastically reduced, manifested in reduced complication rates and surgical times. This has been confirmed by outcome analyses.

I concede that the above approach is more difficult to explain and impart to the novice resident. Yet, it allows the teacher to provide experiences instead of conclusions. Dynamic thinking replaces automatic and mechanical recipe fulfillment. The teacher helps awaken the awareness of cause and effect and, hopefully, a prepared mind.

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