



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	Ophthalmology Research: An international Journal
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Title of the Manuscript:	The Patient's Viewpoint of Cataract and Detached Retina Surgeries

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
I am glad the author is getting the perspective of an ophthalmologist and including it in the paper. I object to the Appendix of success rates. I am not a statistician, but multiplying the incidences of the various complications is not a means of determining success rate. Success rate for RD repair, for example, might be defined as a reattached retina 3 months after surgery. Avoidance of any of many side effects is not part of the calculation. Is a successful second shot on a par 4 golf hole landing on the green or being close enough to the pin for a tap in birdie? The patient suffered many uncommon complications. The odds of another cataract surgery patient having this series of complications or side effects would be quite small. It would be a disservice to readers if they understood that the clinical course described is the norm, as it certainly is not. Any more than the movie "The Hangover" describes the typical bachelor party. In terms of informed consent, if this scenario is presented to a potential cataract surgery patient with a 50/50 likelihood, no one in their right mind would have cataract surgery. Bad stuff can and does happen. Fortunately not often. A better message would be how symptoms, such as pain, while quite real and significant to the patient, may not have an obvious cause and be difficult to diagnose.	We are still working on the ophthalmologist. But she is very busy and it is taking time. We have rewritten the appendix as follows APPENDIX: SUCCESS RATE What is the success rate for medical procedures? That is a hard question to answer, because it depends on the patient, the surgeon, the year, the operating equipment and conditions, and the definition of success. This appendix will examine published success rate examples for cataract and detached retinal operations. The percentages do not total to 100% because each study had different numbers of patients and different definitions for the outcomes, which were not mutually exclusive. There is a lot of variability in these numbers as is demonstrated by the large standard deviations. A.1 Cataract Surgery Success Rate According to the American Society of Cataract and Refractive Surgery, three million Americans undergo cataract surgery each year, with an overall success rate of 98 percent. I presume this success rate was defined as the biological lens with the cataract was removed and an artificial intraocular lens was inserted. Papers published in the last decade have documented that 97% of cataract operations are completed successfully ($\bar{x} = 96.7, \sigma = 3.6, n = 11$) the numbers in parenthesis are (average, standard deviation, number of reports), while 0.8% had posterior capsule rupture [9][Lee], 1% caused cystoid macular edema that produced visual acuity less than 20/40 ($\bar{x} = 1.4, \sigma = 0.6, n = 8$), 12% produced cystoid macular edema that could be detected with fluorescein angiography or optical coherent tomography ($\bar{x} = 12, \sigma = 6.1, n = 6$), 0.7% caused intraocular infection ($\bar{x} = 0.7, \sigma = 0.4, n = 11$), which is called endophthalmitis, and 1% were followed by retinal detachment within a year [10] [Haug] and [11] [Clark]. In order to compute the expected success rate when there are multiple not mutually exclusive outcomes, we must recast all of these numbers as success rates not failure rates. ATB had cataract surgery which has a 0.97 success rate, posterior capsule rupture 0.992, cystoid macular edema 0.99, intraocular infection 0.993, and retinal detachment within a year 0.99. This example is of one event with multiple not independent outcomes. Therefore, if we multiply these numbers together, we approximate the overall expected cataract surgery success rate of 0.95. A.2 Detached Retina Surgery Success Rate Of retinal detachment surgeries, about 90% are successfully repaired with a single operation. In the remaining cases, the retina detaches again and needs another operation that has a 50% success rate, which yields an overall success rate of 95%. http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Retinal_detachment.



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One retinal detachment operation failure is ocular misalignment after surgery. Among 821 patients who underwent scleral buckle surgery 1.5% of the patients developed strabismus and diplopia <http://www.ncbi.nlm.nih.gov/pubmed/17978674>. Another study reported that among of 1030 patients who underwent scleral buckle surgery 3.8% developed strabismus and diplopia <http://www.ncbi.nlm.nih.gov/pubmed/22466475>. A third study reported that among of 750 patients who underwent scleral buckle surgery 3.3% developed strabismus and diplopia <http://80.36.73.149/almacen/medicina/oftalmologia/enciclopedias/duane/pages/v6/v6c059.html>

The average for these three review papers is $(\bar{x} = 2.9, \sigma = 1.2, n = 3)$.

Bensen [12] found that 55% of their patients who had scleral buckles implanted had cystoid macular edema a. k. a. subretinal fluid $(\bar{x} = 42, \sigma = 37, n = 9)$. Less than 1% caused intraocular infection $(\bar{x} = 0.7, \sigma = 0.4, n = 11)$.

ATB had at least two retinal surgeries with 0.95 success rate, developed strabismus and diplopia with 0.962, had intraocular infection 0.99, and had cystoid macular edema 0.58. The product of these numbers is 0.52. Multiplying this by the expected success of cataract surgery of 0.95 yields an overall expected success rate so far of 0.50.

A.3 Interlimiting Membrane Peeling Success Rate

Macular holes in the retina are commonly treated by peeling off the inner limiting membrane. This operation is effective in closing macular holes. However, ILM peeling has complications: 39% caused central scotomas [13] $(\bar{x} = 39, \sigma = 15, n = 5)$, 0.1% resulted with infection, 1% produced retinal detachment and 75% created a need for cataract removal within one year: however, ATB already had that lens replaced so that number is omitted.

ATB had his inner limiting membrane peeled which has complications of central scotomas with a 0.61 success rate, infection 0.999 and retinal detachment 0.99. So, if we multiply these numbers together, we get an overall expected ILM peeling success rate of 0.60.

Now we will state that the expected success rate for ATB's cataract surgeries, detached retina surgeries and inner limiting membrane peeling is 0.3. This is a small success rate.