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www.reachmd.com  
info@reachmd.com  
(866) 423-7849

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## Comparing Two Methods of Cataract Surgical Planning

### Announcer:

You're listening to *Eye on Ocular Health* on ReachMD, and this episode is part of our "Clinical Minute" series. Here's your host, Dr. Neda Shamie.

### Dr. Shamie:

In this "Clinical Minute," we'll be discussing a study that compared two methods of preoperative planning for IOL implantation. Dr. John Hovanesian, who's a dear friend of mine, is here to discuss the findings.

John, thank you so much for joining me for this Clinical Minute, and more importantly, for all the contributions you've made to the field of Ophthalmology. I love the study; I think it's definitely forward-thinking like you always are. Love to hear your thoughts on how this can be applied in our clinical practice.

### Dr. Hovanesian:

You bet, thank you, Neda. It's a pleasure to join you.

As you know, for decades we've been planning cataract surgery more or less the same way. A printout comes out of our machine and we circle a lens we want, but often we don't have the modern formulas in there that are available online. And so in post-refractive cases, for example, that often means a lot of transcription of datapoints, and a lot more time spent, compared to some software that's available today. And there are really two platforms that work really well. One is the Alcon SMART Cataract Suite. And the other is ZEISS VERACITY Surgical. So these connect to our EHR systems, and they allow us to plan surgery with all the advanced formulas for post-refractive and complex eyes without having transcription of datapoints, or at least much less transcription.

So we measured that. How long does it take to do the same 40 eyes which we plan on paper, and we planned with one of these systems. And then we measured the amount of time separating out non-post-refractive and post-refractive cases. And then looking at the number of data points that were manually transcribed by each method. Well, not surprisingly, we did a lot better with the online planning system. So we went, in the case of average surgical planning time, we went from about 8 minutes for post-refractive cases to about 1 minute. And for non-post-refractive cases, the difference was not so great. They took about 2.5 minutes to plan on the traditional methods, and about a minute to plan with the planning software.

Similarly, there was a very significant reduction in the amount of data points that were transcribed from in post-refractive eyes from 19 data points down to about 1, and a non-post-refractive from perhaps 3 or 3.5 data points on average to about 1.

So we kind of extrapolated that and said, okay, what's the likelihood if you have to transcribe all those data points, of making an error? And there's good science on this already. We know there's about a 3% error rate in transcribing data from one place to another in other medical fields in laboratory science. So what we found is that in post-refractive eyes, you have a likelihood of making an error in 2 out of 3 eyes, if you are doing it the paper way, and maybe 1 in 22 eyes if you do it on a digital planning system. The improvement was from about 1 in 8 cases to about 1 in 36, if online planning, compared to traditional planning in our study. But obviously, the results vary by how many actual data points you transcribe. The conclusion here is that you're a lot better off from a time standpoint, and probably from a safety standpoint, using an online planning system.

### Dr. Shamie:

But thank you so much, John, you're bringing us to the future, which is really the future is to be smarter, more efficient, and minimize error, and also take advantage of technology. So thank you for your leadership.

**Dr. Hovanesian:**

It's a pleasure, and thanks for having me as part of Clinical Minute. This is just such a terrific way to learn about new studies, and you do a great job with it, Neda.

**Dr. Shamie:**

Thank you so much, John, and have a great day.

**Announcer:**

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