

# How Digital Workflow Boosted my Confidence and Elevated Premium Patient Rates in Cataract Surgery

By Tanit Wongwibulsin, MD

Recent years have brought significant advances in optical design of premium intraocular lenses (IOLs) and an expanding array of options that allow cataract surgeons to meet the functional needs of individual patients and deliver good quality vision. While these developments should favor significant growth of the premium IOL channel, recent findings from the ESCRS Clinical Trends Survey showed that the percentages of procedures involving toric or presbyopia-correcting lenses remained relatively low with only 18% of patients with clinically significant astigmatism receiving a toric IOL and only 13% of cataract procedures involving a presbyopia-correcting IOL.<sup>1</sup>

From a surgeon's perspective, the fact that patients are paying out-of-pocket for premium IOLs raises the bar for delivering a perfect outcome. Surgeon comfort in offering premium IOLs requires confidence in one's ability to achieve the target refraction. Achieving the target refraction depends on choosing the correctly powered IOL and accurate alignment intraoperatively. I realized, however, that these tasks depend on multiple manual steps, which raised concerns about potential transcription errors. To minimize this risk, I have implemented several mitigation measures. Consequently, the entire process was time-consuming and demanded considerable manual effort.

In January 2023, I switched to a fully digital cataract workflow to connect the operating room (OR) with pre-operative assessments and post-operative patient care (Figure 1). After it was up and running, I soon appreciated that my new digital workflow platform was impacting my practice in positive ways. First, its implementation improved workflow efficiency for me and my team throughout the entire cataract surgery journey. This was an expected benefit, and it has also led to increased productivity for me and my team both in the clinic and in the OR.

Notably as well, I have seen a remarkable increase in my premium IOL case volume since I switched to the digital workflow. For reasons explained further below, I became more certain that I could consistently deliver excellent refractive outcomes. Therefore, I also became more comfortable offering premium IOLs to more patients. I also believe that my patients sensed my greater confidence and, on that basis, became more motivated and trusting to choose a premium procedure.



Figure 1. Performing cataract surgery in a fully digital environment using EQ Workplace to seamlessly connect the operating room with pre-operative and post-operative patient assessment and care.

### What does switching to a digital cataract workflow mean?

My workflow looked like the following: I was using the IOLMaster® 700 for biometry and the CALLISTO® eye with the LUMERA® 700 microscope (all products Carl Zeiss Meditec AG; Jena, Germany) to guide alignment. I was working with this technology as it supports achieving refractive accuracy. However, I realized that connecting these instruments through a digital workflow solution could make the entire surgical journey more efficient.

With switching to a fully digital cataract workflow, I have now connected my existing technologies through implementing EQ Workplace® – a cataract surgery planning solution running on FORUM® – to streamline my processes of planning and performing cataract surgery, assuring secure data management, and accurate flow of data from biometry to surgery.

Before installing the digital workflow, I had to copy the IOLMaster printout into the Line app, send it to IOL manufacturers, and then manually enter the data into the online calculators. Once the results were returned, I would thoroughly check all transcribed data to rule out any errors. For further confirmation of IOL power, especially in patients with a history of corneal refractive surgery or other complex cases, I would independently recalculate IOL power using the online Barrett calculator. Devoting such meticulous attention and effort was important and effective for insuring accuracy, but the entire process was highly time intensive.

en-INT\_32\_025\_04531 The statements of the authors reflect only their personal opinions and experiences and do not necessarily reflect the opinion of any institution that they are affiliated with. The authors alone are responsible for the content of their experience reported and any potential resulting infringements. Carl Zeiss Meditec AG and its affiliates do not have clinical evidence supporting the opinions and statements of the authors nor accept any responsibility or liability of the authors' content.

And, if I wanted to change the IOL for any reason, I had to go back to the beginning and repeat the entire process. On surgical days, I felt compelled to get to the OR early to review the paper printouts, the accuracy of the planning data, and receipt of the correct IOL.

Now, with the digital workflow system I can perform IOL calculations instantly online during the preoperative consultation. This significantly reduces the time needed to double-check transcriptions from IOL manufacturers and gives me the opportunity to compare multiple formulas in one session so that I can choose the best IOL. Knowing that all data will be accurately transferred to the OR on the day of surgery frees me to do tasks outside the OR and saves time for my surgical staff as well.

### Impact on efficiency

Several published studies document the benefit of EQ Workplace® for increasing efficiency compared to a conventional workflow approach by showing that use of the digital workflow significantly reduces time spent for preoperative assessments, IOL power calculation, IOL axis marking/alignment, and in the OR overall.<sup>2-5</sup> I have not formally analyzed what effect my switch to a digital workflow had on my practice efficiency, but I estimate that it has decreased the time spent with preoperative planning per case by more than half, from about 5 to 10 minutes to just 2 to 3 minutes. Time spent intraoperatively per case has also decreased from 5 to 10 minutes for the data transfer by USB drive to just 30 to 60 seconds for releasing data from EQ Workplace® and import on CALLISTO eye®.

Because of the time saved per procedure, I have been able to increase my case load on each surgical day. My annual cataract surgery case volume nearly doubled from 251 in 2021 to 470 in 2024. Based on data available through June, I expect that the volume will reach 520 cases in 2025.

### Impact on premium IOL conversions

An analysis of types of IOLs implanted in recent years confirms my impression that the proportion of cases involving premium IOLs increased significantly after we began using the digital workflow with EQ Workplace® in January 2023. This positive change was evident looking at both the self-paying group of patients who pay entirely out-of-pocket for any standard or premium IOL and the segment of welfare patients for whom the government covers the cost of a standard IOL but not for a premium option (Figure 2).

Breaking it down by patient segment, the rate for the self-paying group rose from an average of 13% in 2021-2022 to 39% in 2023-2024 and from 5% to 24% in the welfare group comparing those respective time periods. Remarkably, in the first half of 2025, 32% of welfare patients and 58% of self-paying patients are choosing premium IOLs.

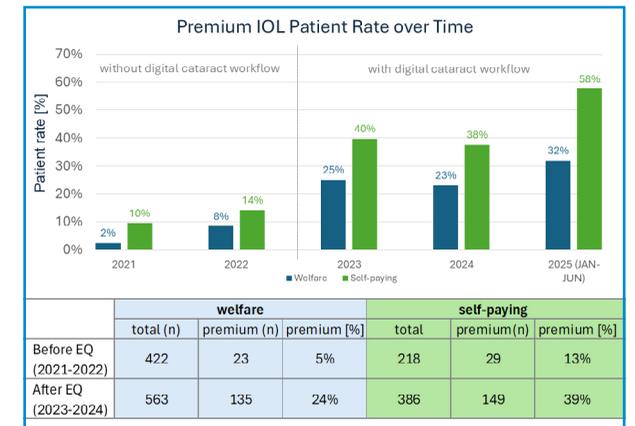


Figure 2. Premium IOL conversion rates by year for welfare patients and self-paying patients.

### Conclusion

I decided to integrate the ZEISS Cataract Workflow into my practice because I expected that by seamlessly connecting all workflow processes from the examination room to the OR it would improve efficiency and ensure data accuracy. Once I began using it, however, I found that with these benefits I also became more confident using premium IOLs and more comfortable talking to my patients about achieving precise outcomes. Whether they want to grow their premium IOL practice or are just interested in increasing efficiency throughout the cataract surgery journey, I encourage all cataract surgeons to consider the benefits I have found using a fully integrated and digitally connected workflow.



**Tanit Wongwibulsin, MD,** is a cataract and vitreoretinal specialist and assistant director of information technology at Panyanantaphikkhu Chonpratan Medical Center Srinakarinwirot University, Pak Kret, Thailand. He is a paid consultant to Carl Zeiss Meditec AG.

### References

- European Society of Cataract and Refractive Surgeons. ESCRS Clinical Trends Survey 2023 Results. [https://www.es CRS.org/media/jg0hzpys/es CRS\\_clinicaltrendssurvey2023\\_sept24.pdf](https://www.es CRS.org/media/jg0hzpys/es CRS_clinicaltrendssurvey2023_sept24.pdf). September 2024. Accessed August 21, 2025.
- Rombold F, Niederdelmann C, Pariti R, Khayat B. Time savings using a digital workflow versus a conventional for intraocular lens implantation in a corporate chain hospital setting. *Clin Ophthalmol*. 2024;18:113-119. Erratum in: *Clin Ophthalmol*. 2024;18:915-916.
- Shetty N, Saxena A, Singh VM, et al. Effect of digital cataract workflow on time and resource efficiencies in cataract surgery: time and motion study. *J Cataract Refract Surg*. 2024;50(12):1208-1214.
- Brunner BS, Luft N, Priglinger SG, et al. Saving of time using a software-based versus a manual workflow for toric intraocular lens calculation and implantation. *J Clin Med*. 2022;11(10):2907.
- Russell MK, Hsing YI. Evaluation of the Efficiency of a Digital Workflow for Cataract Planning in Patients with Astigmatism. *Clin Ophthalmol*. 2024;18:1441-1446