

A. John Kanellopoulos, MD

A. John Kanellopoulos, MD, is the Director of the Laservision Eye Institute in Athens and the Clinical Associate Professor of Ophthalmology at New York University Medical School.

1. Tell me about the evolution of your career?

I attended school in Greece before transferring to the University of Southern Illinois. I initially intended to study orthopedic surgery, but a research project on corneal transplants in rats changed my mind. I discovered that the eye and cornea were fascinating to me; that was the start of how ophthalmology won me over.

After my residency, I did a corneal transplantation fellowship at Cornell University, an additional fellowship in glaucoma surgery, and a mini-fellowship in keratoprothesis at Harvard Medical School. I practiced in New York for 5 years before moving to Athens in 2001. Although I still retain an academic appointment in New York and often work there with residents at the Manhattan Eye, Ear, and Throat Hospital, I have a limited clinical presence in the United States.

I have maintained a strong interest in research, which I think has made me a better clinician. I believe that research is an excellent way to refine my diagnostic skills and surgical technique, as it generally makes surgeons more careful and observant in their clinical practice. Because of my research, I have had the opportunity to interact with the best surgeons in the world; it is a constant classroom for me. In addition to helping my patients, my research keeps me enthusiastic about this field.

2. You have practiced medicine in both the United States and Europe. What do you feel is one of the main differences in ophthalmology between the two countries?

Despite different cultures, countries, and languages, I have found that the everyday clinical practice of ophthalmology is extremely similar.

In terms of technology, however, I am fortunate to have access to instrumentation much sooner than my colleagues in the United States. I found that there was a

significant difference, in my opinion, of what technology I could use in Europe versus the United States. This was quite attractive to me and played a part in my decision to relocate to Athens.

3. What kind of technology or technique do you feel like are the next big thing?

I have been impressed with what corneal crosslinking can offer both refractive and corneal surgeons because it addresses both ectasia and keratoconus. I have been fortunate enough to couple corneal crosslinking with highly customized ablation techniques for amazing outcomes. The two technologies are extremely synergistic: I have reduced my corneal transplantation rates for keratoconus over the last 3 years by an impressive 80%, despite living in a country where keratoconus is endemic.

The ability to offer stabilization and effective visual rehabilitation for these patients has been amazing. If this technique holds true to the outcomes we are seeing now, it will create a significant treatment paradigm shift for the corneal transplant surgeon. When I compare the visual function of many young people who have had corneal crosslinking treatments and topography-guided normalization of their cornea with corneal transplant patients, the results are similar. The benefit, however, is that while you have to renew a corneal transplant approximately every decade, you may not have to renew a cross-linked cornea.

4. What advances do you feel have made the largest impact in ophthalmology?

In addition to corneal crosslinking, several advances have been pivotal in my career. First, was pushing the cataract incision barrier to under 2 mm. Although this

(Continued on page 89)



(Continued from page 90)

is common today, it was almost unheard of when I began working with laser phaco in 1996. The laser phaco technology may have not taken hold, but the idea sparked a fire for further microincisional incision research and development. I published one of the first papers on cataract surgery and IOL implantation through a sub-2-mm incision in 1999.

The second great advance has come through new laser technologies. Since I began performing LASIK in 1994, the evolution has been spectacular. I remember when 20/40 outcomes were considered a great result. Now, most clinicians expect 20/20 in almost every case. With the addition of corneal topography, Pentacam-driven custom ablations (Oculus Optikgeräte GmbH, Wetzlar, Germany), and femtosecond laser technology, we can now plan and successfully operate on a larger spectrum of normal and highly irregular corneas.

It is truly a dream-come-true for surgeons. There has been a great increase in efficacy, with a simultaneous improvement in safety. I think that today, refractive surgery is one of the most effective treatments offered in medicine.

5. What technology do you foresee finding great success in the future?

I think that accommodating IOLs will be the next area for expansion in ophthalmology. The outcomes in this area will create a new dimension for vision. The biggest hurdle to overcome is creating an IOL that offers good vision at both near and far with almost perfect biometric results. This lens also needs to maintain the same volume as the crystalline lens.

I have worked with several models of accommodating and multifocal IOLs in the past, and although the initial results were exciting, we found out later that there were some flaws.

I am extremely excited to be working with the new Crystalens Five-0 (Bausch & Lomb, Rochester, New York). In terms of accommodation, this lens shows tremendous promise compared with the original model. Obviously, no one can predict if the Five-0 will be the solution, but it is a step in the right direction.

I think that the idea of implanting a truly accommodating lens in the future is extremely exciting for cataract and refractive surgeons. Why perform a refractive procedure on an -8.00 D myope, when you have the ability to exchange the lens and give the patient perfect distance and near vision for the rest of his life.

That sort of technology would really change everything. ■

