

Opening Ceremony

AMSTERDAM (jp) The Opening Ceremony on Sunday, 6 October, will welcome the refractive and cataract surgeons from Europe and all over the world, and it also leaves room for reflection.

After the welcome words from ESCRS President Peter Barry and local host Rudi Nujts, Philippe Sourdille will remember friend and colleague Joseph Colin who died on 24 February following a



Joseph Colin passed away on 24 February.

battle with illness. Colin was the chairman of the Department of Ophthalmology at Bordeaux University Medical School. Among his many activities, he was member of the boards of the French Society of Refractive Surgery and the French Eye Bank. His work was acknowledged with multiple awards: the Binkhorst Medal from the ESCRS in 1990, the Honor Award from the American Academy of Ophthalmology (AAO) in 1998, the Senior Achievement Award from the AAO in 2007, to name but a few.

Binkhorst Medal Lecture 2013

As a highlight of the day, Douglas D. Koch will give the Binkhorst Medal Lecture 2013 at the end of the Opening Ceremony.



Douglas D. Koch will give the Binkhorst Medal Lecture 2013

For his talk Koch has chosen the question: "The ablated cornea: What have we done?"

Koch is a professor of ophthalmology and holds the Allen, Mosbacher, and Law Chair in Ophthalmology at the Cullen Eye Institute, Baylor College of Medicine in Houston, Texas, where he has been a faculty member since 1982 and has been performing cataract and refractive surgery since that time.

He is the Editor Emeritus of the Journal of Cataract and Refractive Surgery and Past President of the American Society of Cataract and Refractive Surgery, the American Ophthalmological Society, and the International Intra-Ocular Implant Club.

At the beginning of a new era

How to manage the learning curve of laser refractive cataract surgery

MANNHEIM/D Laser refractive cataract surgery is a powerful tool and offers the chance to improve the results of modern lens surgery.

Laser refractive cataract surgery was introduced in 2008 by Zoltan Nagy from Budapest, Hungary¹ and has spread worldwide with more than 300,000 procedures performed to date. Five companies offer femtosecond lasers for lens surgery commercially.

Laser placement

The laser can either be placed inside the main operating room (my choice) or in a separate room within the sterile area. I placed the Alcon LenSx

Transition step-by-step

1. **Docking:** The first step to be mastered is the "docking" of the eye to the laser. In some lasers, this is done by lowering a suction piece on the eye directly (e.g., Alcon LenSx), in others, a suction ring is placed on the eye first and the laser cone is lowered onto this suction ring second (e.g., Bausch & Lomb Victus, AMO Catalys, LensAR). It requires a little practice to perform the docking, especially if the respective surgeon has not performed femtosecond laser LASIK surgery before. Care should be taken to achieve a good central docking without excessive tilt of the eye. Typically, the patient's head must be slightly rotated away from the operated eye to get the

rare with all lasers today that no special instrument to check is required. Should any tags be present, I remove the phaco tip and use a capsulorhexis forceps to complete the capsulorhexis.

3. **Modified hydrodissection technique:** The third step is to adopt a modified hydrodissection technique. The laser creates air bubbles in the capsular bag, which may increase the pressure in the bag, especially if a small capsulorhexis is used. Hydrodissection should therefore be slow and with low volume to avoid a capsular blow-out syndrome by a sudden increase in pressure.

The nucleus may also be split with a chopper, splitter or hook to let the trapped air escape prior to hydrodis-



Michael Knorz



Patient after draping the eye. LenSx femtosecond laser on left, excimer laser on right. Zeiss pico operating microscope in the center.

laser, my surgical microscope (Zeiss pico) and the Alcon EX 500 excimer laser in my main operating room. All three are connected by a moving bed, which has three programmable stops (left side for LenSx, middle for microscope, and right for excimer laser).

Once the patient is on the bed (middle position), I irrigate the conjunctival sac with diluted betadine (1:10) and disinfect the lids and the skin around the lids with undiluted betadine solution. The eye is then draped with a sterile plastic drape, and the lashes are also taped with a Tegaderm drape.

I wear a mask, a gown, and powder-free gloves as typical in cataract surgery. After draping, I move the bed to the left, placing the patient under the LenSx laser, and perform the laser part of the surgery. Once done, I swing the bed back to the middle position, placing the patient under the surgical microscope. Standard phacoemulsification and/or irrigation/aspiration are then performed, and an IOL is implanted.

patient's nose out of the way. Surgeons should practice docking on several patients before they start the actual procedure. Once a good docking is achieved, the actual laser part is easy. Should a suction break occur during the laser part, one should not re-dock but proceed with a manual procedure.

2. **Entering the anterior chamber:** The second step to be mastered is entering the anterior chamber and checking the laser capsulorhexis. A blunt spatula should be used to open the side-port incision first, then viscoelastic should be injected to avoid shallowing of the anterior chamber, as shallowing may result in an anterior capsule tear if the capsulorhexis is incomplete.

Then the main incision should be opened and the completeness of the capsulorhexis should be checked as any tags, which are not detected, may lead to an anterior capsule tear. I simply use the phaco tip to check, and aspirate the anterior capsule once checked for completeness. Tags are so

section. My technique is to introduce the phaco tip into the anterior chamber as mentioned above and check the capsulorhexis. If complete, I aspirate the anterior capsule and introduce a hydrodissection cannula into the anterior chamber using my second hand. Careful hydrodissection is now performed while aspirating with the phaco tip at the same time to avoid an increase in pressure.

Once these three steps are managed, the remaining part of the surgery is not different from standard phacoemulsification. It is just easier, as the nucleus is already pre-fragmented.

Potential

What is the potential of laser refractive cataract surgery? I believe it is similar to the potential phacoemulsification had over ECCE. Lens surgery will change in the next few years, with all the demanding and affluent baby boomers approaching presbyopia and early cataract/lens surgery. Our refractive results have to

improve considerably over what is, on average, the standard of care in cataract surgery today.

Much like ECCE was worse than phacoemulsification regarding induced astigmatism, phacoemulsification today does too little to address preexisting astigmatism and effective lens position. We know that we can do much better, and that will drive demand. With the availability of laser refractive cataract surgery, a powerful tool is placed in our hands to address, at least in a large part, the missing issues of today's lens surgery. Laser refractive cataract surgery will make the cataract procedure more expensive, but price has never been a limiting factor if the outcomes are superior.

Interesting times

I believe that we are at the beginning of a new era, which will be remembered much like the transition from ECCE to phacoemulsification in the 80s and 90s. Surgeons trained to use phacoemulsification will adopt laser refractive cataract surgery, and the next generation of residents will start to train in laser refractive cataract surgery; residents will likely not perform phacoemulsification first, much like today's generation did not learn how to perform ECCE but rather started with phacoemulsification. Times are interesting, and it is exciting to be involved in the introduction of this promising, innovative procedure.

Sun, 06.10. 11.00-13.00

Symposium: Femtosecond-assisted cataract surgery: Euphoria amid skepticism and financial restraints Main lecture hall

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