

Wskazania i trendy epidemiologiczne
Indications and epidemiological trends

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Cataract surgery is one of the most frequently performed surgeries in western countries and its number continues to increase. The indication for cataract surgery has changed over the last decades. While cataract surgery used to be performed exclusively to restore vision, refractive aspects such as postoperative spectacle independence are increasingly important nowadays. The presentation will give the audience an overview of the current situation and future trends in cataract surgery.

Postępy w pomiarach przedoperacyjnych i śródoperacyjnych oraz w obliczaniu mocy soczewki

Advancements in preoperative and intraoperative measurements and IOL power calculations

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Cataract surgery is making a full transition from vision restoring to fully refractive procedure and the patient's expectations from this type of surgery are constantly increasing. This talk aims to provide the overview of new technologies and procedures involved in preoperative and intraoperative measurements, as well as IOL power calculations in modern cataract surgery. The optical biometry as a method of choice in the last two decades is being improved with the addition of a new techniques of measurement, while the number and the accuracy of assessment of biometric variables is increasing. The precision of IOL power calculation is continually evolving with multi-variable formulas being the dominant ones. The introduction of artificial intelligence and machine learning enabled the development of new formulas showing superior results. The role of intraoperative aberrometry in the improvement of postoperative results is still being debated, failing to show the clear advantage over methods using newest IOL formulas.

Innowacje w chirurgii zaćmy
Innovations in surgical procedures

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Cataract surgery went through a brisk development in the last 55 years since Dr. Charles Kelman performed the first groundbreaking procedure - phacoemulsification. Phacoemulsification machines became more and more efficient. With minimizing invasiveness greater safety was introduced and cataract surgery became an outpatient procedure. Always new and improved intraocular lenses (IOLs) are bringing customization, so the patients' needs, and wishes can be easier fulfilled. New devices are helping us perform capsulorrhexis. Femto-second assisted cataract surgery (FLACS) brought improved accuracy and precision to cataract surgery. Computers are being incorporated into microscopes to guide the surgeons during the surgery with digital marking. Intraoperative ocular coherence tomography (OCT) is the latest add to already very sophisticated surgery, which allows the surgeon to monitor activity in the anterior chamber very closely.

Obecne i przyszłe technologie soczewek wewnątrzgałkowych
Current and future IOL technologies

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Surgeons continue to look for an intraocular lens solution that provides their patients with more functional vision and good visual quality. Some developments in optical design have emerged in the last decade. Despite today's technology, we are still looking into lens currently in development. Increasing range of new hi-tech IOLs on the market provides better choice of optimal intraocular implant for individual patient. The goal of the talk is to describe the developments and new solutions with Intraocular lenses, indications and controversies.