Background: In cases of uncooperative children sometimes a complete ocular examination can not be performed. Examination under anesthesia (EUA) often has to be resorted to eliciting accurate diagnosis and management in these cases. Few data are available on the clinical impact of the EUA.

Purpose: To evaluate the contribution of ophthalmic examination under anesthesia for the management of children with eye disorders, using the Greenwich Grading System (GGS).

Methods: Retrospective case series at a tertiary hospital over a period of 10 years (July 2007-2017). Case records of all pediatric patients (<18 years-old) who underwent EUA were reviewed. Data captured from the medical records included: patient’s bio-data, past medical history, the motive for performing the exam, the ophthalmic exams performed (slit lamp, retinoscopy, and fundoscopy), and the complementary diagnostic tests including, Perkins® applanation tonometer, RetCam®, ophthalmic ultrasound, visual evoked potential, and electroretinogram. The GGS was used to quantify the contribution of EUA to the diagnosis, overall investigation and treatment of each patient.

Results: A total of 190 medical records were reviewed, 30 were excluded due to incomplete medical record, age >18 or if the child missed the exam. The mean age was 37±33 months and 43,8% were female.

The most common causes of referral were nystagmus (35%), unexplained decreased vision (25%), suspicion of retinal (15,6%), anterior segment (13,1%), or optic nerve (11,3%) disease. The most common diagnoses were infantile nystagmus (n=46), retinal dystrophy (n=39), optic nerve atrophy (n=15) and cortical visual impairment (n=13).

The EUA was found to be of value to the overall management of children with eye disease in 90.6% of the cases. A new diagnosis was obtained in 27,5% and in 61,3% of the children the diagnosis was confirmed or excluded. Regarding therapeutic management, the EUA allowed reassurance and/or explanation of the disease in 55% of the children. In 36,9% of the patients, treatment was changed or initiated as a result of EUA. In 12 cases (7,5%) the exam was inconclusive. The clinical outcome was not adversely affected in any patient.

Conclusion: EUA is a valuable investigation for the management of pediatric eye disease. In most cases, the EUA has an important clinical impact by confirming or excluding a diagnosis and also by allowing explanation and reassurance to children and parents.