eyes. There is paucity of literature in children, for whom significant benefits can be derived by operating both eyes under the same anesthesia.

Methods: Retrospective analysis of children who underwent SBCS from 2008-2018 was performed. Procedures were consented to by parents following detailed discussion about risks/benefits of surgery in two sessions versus one. Data on outcomes and complications (ophthalmological, anesthesia related) up to 8 weeks postoperatively is presented.

Results: Thirty-seven patients (74 eyes) (mean age, 4.4 months) (21F:16M) underwent bilateral lens aspiration with anterior vitrectomy (6 with, 68 without IOL). Average ASA score was 2.1. 19 were admitted for observation post-surgery (per anesthesia protocol). There were no devastating anesthesia-related complications; however, one with aortic stenosis needed phenylephrine support, one was managed with re-intubation (laryngeal spasm post-op) with no further complications. There were an average of 3.89 follow-up visits (in 8 weeks postoperative period) occurred. One patient had fibrinous reaction, and another glaucoma (needing goniotomy) in both eyes associated with Wolfram and Lowe syndromes, respectively. One eye had epithelial defect (resolved spontaneously). There was no endophthalmitis.

Discussion: SBCS in children have several potential advantages including avoidance of multiple anaesthesia, faster visual rehabilitation, reduced postoperative follow-up visits, cost savings to parents and healthcare systems.

Conclusions: Outcomes and complication rates of SBCS in this study were comparable to reported literature for unilateral procedures. SBCS may be offered to parents as a viable option; however, studies with larger sample sizes are desirable.

009 Validation of the G-ROP modified retinopathy of prematurity screening criteria. Gil Binenbaum, Lauren A. Tomlinson, Alejandra de Alba Campomanes, Edward Bell, Pamela Donohue, David Morrison, Graham Quinn, Michael X. Repka, David Rogers, Michael Yang, Yinxi Yu, Gui-shuang Yang

Introduction: The Postnatal Growth and ROP Study (G-ROP-1) developed modified screening criteria with 100% sensitivity for ETROP type-1 ROP and 30% reduction of infants requiring examinations in a retrospective development cohort of 7,483 infants from 29 North American hospitals in 2006-2012. Infants meeting one or more criteria undergo examinations: GA $<$28 weeks; or BW $<$1051 g; or weight gain$<$120 g, $<$180 g, or $<$170 g during ages 10-19, 20-29, or 30-39 days, respectively; or hydrocephalus. We evaluated the generalizability of the G-ROP screening criteria in a new cohort of at-risk infants.

Methods: We conducted a prospective validation study (G-ROP-2) of infants examined at 41 North American hospitals (25 G-ROP-1 hospitals, 16 new hospitals) in 2015-2017. Primary outcomes were sensitivity of G-ROP criteria for type-1 ROP and reduction in infants meeting criteria to receive examinations.

Results: A total of 3,980 infants were studied (median BW, 1072 g [range, 350-2190], GA, 28 weeks [22-38]). In this new cohort, the G-ROP criteria correctly predicted 219/219 type 1 (sensitivity, 100%; 95% CI, 98.3%-100%) and 253/256 treated cases, reducing infants undergoing screening by 36% (95% CI, 34%-37%). In a combined G-ROP-1/G-ROP-2 cohort of 11,463 infants, the criteria predicted 677/677 type 1 (100%; 99.4%-100%) and 767/770 treated cases, reducing infants meeting criteria by 33% (32%-34%); while current criteria (BW $<$1501 g or GA $\leq$30 weeks 0 days without subjective "poor postnatal course" criterion) predicted 674/677 type 1(99.6%; 98.7-99.8%) and 766/770 treated cases.

Discussion: These large cohorts provide evidence-based screening criteria that have higher sensitivity and specificity (less infants receive examinations) for type 1 ROP than currently recommended guidelines.

Conclusions: The G-ROP modified screening criteria were generalizable upon validation and could be used clinically to greatly reduce the number of infants requiring examinations.

010 Baseline and clinical factors associated with response to binocular amblyopia treatment. Eileen E. Birch, Reed M. Jost, Krista R. Kelly, Joel N. Leffler, Lori Dao, Cynthia L. Beauchamp

Introduction: We previously reported results from our primary cohort (n = 28) enrolled in a randomized clinical trial (NCT02365090) that reported binocular amblyopia treatment was effective in treating childhood amblyopia and more efficacious than patching (Kelly, Jost et al JAMA Ophthalmol 2016). Completion of enrollment into our preplanned secondary cohort combined with the primary cohort (n = 48), has now provided sufficient power to determine whether there exist baseline and/or clinical factors that are predictive of response to binocular treatment.

Methods: 48 amblyopic children (4-10 years) were randomly assigned binocular game or patching treatment at home. The primary outcome was change in amblyopic eye best-corrected visual acuity (AE BCVA) at the 2-week visit. Change in stereoacuity was a secondary outcome. Baseline factors: age at enrollment, AE BCVA, stereoacuity, suppression. Clinical factors: etiology, age at diagnosis, prior treatment, baseline alignment.

Results: AE BCVA improvement was greater with the binocular game than patching (mean $\pm$ SD = 0.14 $\pm$ 0.08 vs 0.07 $\pm$ 0.09 logMAR; t = 3.00, P = 0.004). Improvement from baseline was significant for the binocular game (95% CI, 0.11-0.17 logMAR) and patching (95%CI: 0.03-0.10 logMAR]. Stereoacuity improvement was greater with the binocular game than patching (0.06 $\pm$ -0.18 vs $-$0.06 $\pm$ 0.23 log arcsec; t = 2.07, P = 0.04). Only one factor was associated with AE BCVA change with game treatment; orthotropic children had greater improvement than children with 2-4pd esotropia (0.17 $\pm$ 0.07 vs 0.09 $\pm$ 0.05 logMAR; t = 2.37, P = 0.03). In addition, change in AE BCVA was significantly correlated with hours of game play (r = 0.67; $P <$ 0.0001).

Discussion: Binocular amblyopia treatment was effective in treating childhood amblyopia, especially among orthotropic children who had more game play time.

Conclusions: Orthotropia and adherence were associated with binocular amblyopia treatment success.

011 Outcomes of bilateral cataracts removed in infants 1 to 7 months of age concurrent with the Infant Aphakia Treatment Study. Erick D. Bothun, Deborah K. Vanderveen, David A. Plager, Sharon Freedman, Rupal H. Trivedi, Nancy N. Diehl, M. Edward Wilson, Elias I. Traboulsi, Jill S. Anderson, Nancy C. Weil, Allison R. Loh, David Morrison, Kimberly G. Yen, Scott Lambert

Introduction: This study evaluates outcomes of bilateral cataract surgery in infants ages 1 to 7 months performed by Infant Aphakia Treatment Study (IATS) investigators during IATS recruitment and compares them to IATS outcomes of unilateral cases.

Methods: Retrospective clinical study at 10 IATS sites.

Results: 178 eyes (89 children) were identified with median age of 1.8 months (range, 1-7) at cataract surgery. 51 (29%) eyes of 26 patients

received primary intraocular lens (IOL) implantation. Of the 60 children followed between 4-6 years of age with optotype visual acuity (VA) testing, corrected visual acuity was excellent (<20/40) in 45% of better seeing eyes and 20% of worse-seeing eyes. 2% had poor acuity (>20/200) in the better eye and 10% in the worse eye. Median best eye visual acuity was 20/50 (logMAR 0.40) ($P = 0.84$)) in both aphakic and pseudophakic children. Unplanned reoperation occurred in 29% of right eyes (including glaucoma surgery in 9%).

Discussion: Good visual outcomes were obtained in both eyes following bilateral infantile cataract surgery. With or without the inclusion of children who tested poorly due to associated neurologic disease, the VA of the worse seeing eye in these bilateral cases is better than VA in unilateral cases included in the IATS. The rates of reoperation and glaucoma are consistent with the published IATS data. Aphakia management did not affect visual acuity outcomes.

Conclusions: Visual acuity after bilateral cataract surgery in infants younger than 7 months is better than VA following unilateral cataract surgery, but adverse events were similar.

012 Failure of methotrexate monotherapy and subsequent response to tumor necrosis factor inhibitors in pediatric noninfectious uveitis. Basak Can Ermerak, Erin D. Stahl, Ashley M. Cooper, Katie Keck

Introduction: This study aimed to determine the rates of treatment failure with methotrexate (MTX) monotherapy and subsequent efficacy of anti-tumor necrosis factor (TNF) alpha inhibitors adalimumab (ADA) and infliximab (IFX) in refractory pediatric noninfectious uveitis.

Methods: The charts of patients evaluated with noninfectious uveitis between January 2013 and December 2017 were reviewed retrospectively. Data recored included: demographic information, site and degree of uveitis,associated systemic conditions, systemic and topical therapy. Treatment failure was defined as steroid dependence with persistent or recurrent inflammation despite maximum dose for 3 months or longer.

Results: Seventy-three patients (male/female = 33/40) were included. Anterior uveitis (AU) was the most common presentation (n = 51 total; juvenile idiopathic arthritis–associated n = 23, idiopathic n = 28), followed by pars planitis (n = 13) and panuveitis(n = 9). Mean age at diagnosis was 7.6 years. Mean follow-up period was 76.5 months (range, 18-192). Overall treatment failure with MTX monotherapy was 83.5%. Of those who failed MTX monotherapy, 27 were controlled with ADA and 10 with IFX as the first additional treatment. Twenty one patients on ADA therapy were switched to IFX for persistent inflammation and 85.7% were controlled. Subgroup analysis for each type of uveitis was further performed.

Discussion: There is limited data on control of various pediatric uveitis subtypes with MTX monotherapy. This study suggests many patients with uveitis require TNF inhibitors for disease control.

Conclusions: MTX was effective as monotherapy in less than 50% of pediatric uveitis patients. Additional IFX and ADA were effective and safe treatment modalities to achieve steroid-free remission for pediatric uveitis.

013 Evaluation of a computer-based facial dysmorphology analysis algorithm (Face2Gene) using standardized textbook photos. Ta C. Chang, Alana L. Grajewski, Elizabeth A. Vanner

Introduction: Face2Gene (F2G) is a smart-phone based computerized facial dysmorphology analysis program that analyzes facial images to provide differential diagnoses of possible syndromes. In this study, we tested the sensitivity and specificity of F2G using the images within two standard genetic textbooks.

Methods: Under standard lighting conditions, all facial images contained with the two textbooks were analyzed using F2G. Variables captured include color vs black/white photo, gender of the patient (if known), age of the patient (if known), disease categories, diagnosis as listed in the textbook, and whether the disease has ophthalmic involvement (as described in the textbook entries).

Results: A total of 353 facial images were analyzed. The top F2G diagnosis matched the book diagnosis in 150 (42.5%) entries, while it is included in the top three in 191 (54.1%) entries. 259 entries had ophthalmic involvement, and within this subgroup, the top F2G diagnosis matched the book diagnosis in 108 (49.4%) entries, while it is included in the top three in 140 (54.1%) entries. F2G is highly sensitive for craniosynostosis syndromes (point estimate [PE] 80.0%, 95% confidence interval [CI] 56.3 - 94.3%, P = 0.0118) and syndrome with facial defects as major feature (PE 77.8%, 95% CI 52.4 - 93.6%, P = 0.0309). F2G is highly specific for all categories (PE > 90%, with $P < 0.05$ for all).

Discussion: F2G is a highly specific tool for facial dysmorphology in all categories.

Conclusions: F2G may be a useful tool for pediatric ophthalmologists to rule out certain syndromes when evaluating a child with dysmorphic facial features.

014 Pediatric ophthalmology documentation using electronic health records (EHRs): where does the data come from, and how often is it reviewed? Michael F. Chiang, Isaac H. Goldstein, Brad Henriksen, Abigail E. Huang, Jimmy Chen, Leah G. Reznick, Lorri Wilson, Michelle R. Hribar

Introduction: Because EHR use is time-consuming, pediatric ophthalmologists frequently adopt strategies such as copy-paste and templates, which create long, redundant documentation. This study uses data analytic methods to quantitatively assess the prevalence of imported content in progress notes, and the proportion of prior notes opened.

Methods: Two attending pediatric ophthalmologists were included. There were three components. (1) Progress note text from 10 new and 20 follow-up office visits were characterized as manually entered vs imported using EHR audit log tools (EpiCare; Epic, Verana, WI). (2) Thirty pairs of notes from serial follow-up encounters for the same patients were compared for similarity using computation tools (Workshare Compare, San Francisco, CA). (3) EHR audit logs from 1577 office visits were analyzed to identify the proportion of prior notes opened during each encounter (R, www.R-project.org).

Results: (1) On average, the majority of text words in new and follow-up progress notes was imported using sources such as copy-paste and templates (358/482 [74%] new, 464/524 [88%] follow-up). (2) On average, 647/947 [70%] text words in serial follow-up encounters were identical between notes. (3) On average, attending ophthalmologists reviewed 3.3 ± 6.1% of prior notes at each encounter.

Discussion: Pediatric ophthalmologists may address these issues by collaborating in EHR system design, and in policy-making efforts to support regulations that promote documentation for clinical care rather than compliance.

Conclusions: EHR documentation in pediatric ophthalmology is heavily redundant and largely copied from outside sources, and few notes are being read during office encounters. These findings raise concerns about quality of clinical documentation.