16th RESEARCH DAYS

# 16th Research Days

December 4 - 5, 2014

**Department of Ophthalmology & Visual Sciences**

ORGANIZATION

UNIFESP
Universidade Federal de São Paulo

Escola Paulista de Medicina

HOSPITAL SÃO PAULO

SUPPORT

CAPES

# 16th RESEARCH DAYS

## December 4 to 5, 2014

The "Research Days" meeting was created in 1999 aiming to stimulate and improve the scientific production at the Department of Ophthalmology & Visual Sciences - Federal University of Sao Paulo - UNIFESP. The 2-days meeting includes presentation of papers, fast papers and posters by residents, fellows and postgraduate students. The papers and posters are presented in English and discussion is prioritized. The best scientific work in each category receives an award.

An active participation of the staff as discussants and the participation of well-known investigators in the scientific program are encouraged. Registration is free and open to post graduation programs of Brazil and in Latin America. Approximately 50% of the papers presented at the Research Days will be submitted for presentation at the Annual Meeting of the Association for Research in Vision and Ophthalmology (ARVO).

The 16th edition will be held in São Paulo from December 4 to 5, 2014. Please visit our homepage http://www.oftalmo.epm.br/rd/home.html for the complete scientific program.

# INDEX




**Information**
**Department of Ophthalmology - Federal University of São Paulo**
**821 Botucatu Street, 1st floor – São Paulo, SP, Brazil**
**Phone - Fax: (+55-11) 5085-2003**
**http://www.unifesp.br/doftalmo/rd/home**

# ORGANIZATION

## Post-Graduation Program Coordination

Denise de Freitas

## Program Director

Norma Allemann

## Scientific Committee

Adriana Berezovsky
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Augusto Paranhos Jr.
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Flávio Eduardo Hirai
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Paula Yuri Sacai Munhoz

## Special Guests

**Flávio Eduardo Hirai, MD, PhD**
Professor Post-Graduation Department of Ophthalmology and Visual Sciences
Paulista School of Medicine - Federal University of São Paulo

**Lucy H.Y. Young, M.D., Ph.D., FACS**
Associate Professor of Ophthalmology at Harvard Medical School

**Luis Eduardo Coelho Andrade, MD**
Associate Professor
Rheumatology Division, Paulista School of Medicine, UNIFESP
Chair
WHO/IUIS/Autoantibody Standardizing Committee

**Miguel Burnier MD, PhD, FRCSC**
Director Henry C. Witelson Ocular Pathology Laboratory
McGill University Health Centre

**Sandro Perazzio, MD, PhD**
Rheumatologist
Medical doctor - Rheumatology Section
Federal University of Sao Paulo
Medical Consultant of Rheumatology/Immunology from Fleury Group

# PROGRAM

## December 4 - Thursday

**8:00 – 8:10** **OPENING REMARKS –** *Ana Luisa Hofling-Lima*

**8:10 – 8:20** **PROGRAM HEADLINES AND POST-GRADUATION PROGRAM –** *Denise de Freitas and Norma Allemann*

**8:30-9:20** **PAPER PRESENTATION – SESSION 1**

**Glaucoma**
*Moderators: Augusto Paranhos Jr. and Paulo Augusto Arruda Mello*

8:30-8:37 Anti-scarring effect of intraoperative bevacizumab and mitomycin C alone and combined on modified glaucoma filtration surgery in rabbits.– Christiana V. Rebello Hilgert, PG1

8:40-8:47 Measurement of the Hypotenuse of the Optic Disc Cupping with Spectral Domain Optic Coherence Tomography Enhanced Depth Imaging compared with Standard Automated Perimetry - Fábio Lavinsky, PG1

8:50-8:57 Cup-to-disc ratio measured by 20 MHz ultrasound in the analysis of the optic nerve head in glaucoma - Rafael Lacerda Furlanetto, PG1

9:00-9:07 Fetal ocular measurements by three-dimensional ultrasound – Christiane R. Rolim De Moura, Pós-DOC

**9:15-9:50** **PAPER PRESENTATION – SESSION 2**

**Glaucoma**
*Moderators: Ivan Maynart Tavares, Tiago dos Santos Prata*

9:20-9:27 Correlation between disc damage likelihood scale and cup-to-disc ratio, visual field and retinal nerve fiber layer thickness in normal and glaucomatous eyes – Andrea Cotait Kara José Senna, PG1

9:30-9:37 Applanation tonometry versus pachymetry in newborns – Claudia Cardoso Maestri Ferreira, Pós-DOC

9:40-9:43 Using pre-laminar neural tissue based indices for glaucoma assessment - Flávio Siqueira Santos Lopes, PG0

9:45-9:48 Incidence of glaucoma after phacoemulsification or pars plana lensectomy for congenital cataracts - Maria Vitória Oliveira Moura Brasil, PG0

**9:50-10:10 COFFEE BREAK**

**10:10-10:30 Pre-autoimmunity: perspectives on prevention of autoimmune diseases**
**Luis Eduardo Coelho Andrade, MD**
**Department of Rheumatology – UNIFESP - EPM**

**10:30-11:30 PAPER PRESENTATION – SESSION 3**

**Strabismus, Uveitis, Ultrasound, Lacrimal System**
*Moderators: Norma Allemann and Cristina Muccioli*

10:30-10:37 Pre and postoperative evaluation of limbus-insertion distance of the extrinsic ocular muscles with spectral domain OCT – Julia Dutra Rossetto, PG1

10:40-10:47 Histopathological and immunohistochemical findings after bupivacaine injection in extraocular muscle of rabbits – Luisa Moreira Hopker, PG1

10:50-10:57 Comparison between thermograpy and ocular ultrasound in patients with dacryocystitis – Marco Antonio de Campos Machado, Pós-DOC

11:00-11:07 Evaluation of corneal topography indices in patients with hemifacial spasm treated with onabotulinum toxin-A - Teissy Hentona Osaki, PG1

11:10-11:03 Lacrimal Recanalizer - Recanalization of the nasolacrimal duct with high frequency – Eduardo Alonso Garcia, PG0

11:05-11:08 Serological survey of toxoplasmosis associated with ophthalmologic examination in schizophrenia patients? – Fabio Barreto Morais, PG0

**11:10-11:30 Aspect of innate immunity in Behçet's Disease**
**Sandro Felix Perazzio, MD, PhD**
**Department of Rheumatology – UNIFESP - EPM**

**11:30-12:30** **POSTER - SESSION 1**

**Glaucoma (05), Ocular Ultrasound (03), Cornea and External Diseases (10), Trauma (01), Strabismus (02), Orbit (01), Electrophysiology (01), Epidemiology (01)**

**12:30-14:00** **Lunch Break**

**14:00-15:20** **PAPER PRESENTATION – SESSION 4**

**Cornea and External Diseases, Laboratory, Pharmacology**
*Moderators: Ana Luísa Hofling-Lima, José Alvaro P. Gomes, Denise de Freitas and Fabio Ramos de Carvalho*

14:00-14:07 Detection of herpes simplex 1 and 2 and varicella zoster virus by real-time polymerase chain reaction in corneal scrapings from patients with bacterial keratitis – Heloisa Moraes do Nascimento Salomão, PG1

14:10-14:17 Learning curve of Descemet membrane endothelial keratoplasty performed by cornea fellows – Nicolas Cesário Pereira, PG1

14:20-14:27 Cytotoxic activity and degradation patterns of structural proteins by corneal isolates of *Acanthamoeba spp* – Viviane Peracini Sant'ana, PG1

14:30-14:37 Translational and reverse translational research supporting precision medicine: Acanthamoeba keratitis as a model of linkage between clinical and basic research focused on personalized ophthalmology – Linda Christian Carrijo Carvalho, Pós-DOC

14:40-14:47 Comparative study of different stem cells sources for ocular surface reconstruction in animal model of limbal stem cell deficiency (LSCD) – Priscila Cardoso Cristóvam, Pós-DOC

14:50-14:57 Topical immunomodulator use in the treatment of primary or secondary Sjogren dry eye disease patients – Rossen Mihaylov Hazarbassanov, Pós-DOC

15:00-15:07 Molecular identification and antimicrobial susceptibility profile of viridans group *Streptococcus* isolated from endophthalmitis and keratitis – Katiane Santin, PG1

15:10-15:17 Aqueous humor concentration of fluoroquinolones after topical instillation for ocular surgery prophylaxis - Rachel Lopes Rodrigues Gomes, PG1

**15:20-15:40 COFFEE BREAK**

**15:40-16:00 Neoplastic Lesions of the Conjunctiva and Eyelid**
**Miguel Burnier MD, PhD, FRCSC**

**16:00-17:10 PAPER PRESENTATION – SESSION 5**

**Cornea and External Diseases**
*Moderators: Elcio Hideo Sato, Luciene Barbosa de Sousa, Flávio Eduardo Hirai, Marinho Jorge Scarpi*

16:10-16:17 Optimization of intraocular lens constant improves refractive outcomes in combined endothelial keratoplasty and cataract surgery – Carlos Gustavo Bonfadini Rocha, PG1

16:20-16:27 Comparison of Descemet-on versus Descemet-off deep anterior lamellar keratoplasty in keratoconus patients: a prospective study - Tatiana Moura B. Prazeres, PG1

16:30-16:37 Corneal angiogenesis modulation by cysteine cathepsins: in vitro and in vivo studies – Larissa Pereira Copini, Pós-Doc

16:40-16:47 Visual Rehabilitation with Boston Type I Keratoprosthesis in a Public Referral Cornea Center, Lauro Augusto de Oliveira Pós-Doc

16:50-16:53 Study of tear inflammatory mediators in patients with Keratoconus - Gustavo Souza Moura, PG0

16:55-16:58 Evaluation of conjunctival bacterial flora in patients with Stevens-Johnson syndrome – Luciana Frizon, PG0

**17:10 END OF SESSION**

## PROGRAM

**December 5 - Friday**

**8:10-9:20** **PAPER PRESENTATION – SESSION 6**

**Refractive Surgery, Bioengineering and Cataract**
*Moderators: Paulo Schor, Wallace Chamon, Renato Ambrósio Junior*

8:10-8:17 Enhanced Combined Tomography and Biomechanics data for distinguish forme fruste keratoconus – Allan Cesar da Luz Souza, PG1

8:20-8:27 Numerical Clusters: a novel method to measure near reading acuity and speed - Emanuela Cristina Ramos Gonçalves, PG1

8:30-8:37 Culture and technology: literature and development of critical analysis among undergraduate students of technology in healthcare area at UNIFESP - Marlon Ribeiro da Silva, PG1

8:40-8:47 Automated radio-wave telemetry for intraocular pressure measurement – Fabiano Cade Jorge, PG1

8:50-8:57 Use of visual information in sport: Can it be trained? - Martina Navarro, Pós-Doc

9:00-9:03 Wavefront aberrometry as a tool for rigid gas permeable contact lens fitting in irregular corneas – Aline Lutz de Araújo, PG0

9:05-9:08 Horizontal thickness profile for detecting keratoconus - Bernardo Teixeira Lopes, PG0

**9:10-9:50** **PAPER PRESENTATION – SESSION 7**

**Refractive Surgery and Cataract**
*Moderators: Walton Nosé, Mauro Campos*

9:20-9:27 Botulinum toxin type A for keratoconus – Adimara da Candelária Renesto, PG1

9:30-9:37 Developing and implementing a teaching method of phacoemulsification surgery - Gustavo Ricci Malavazzi, PG1

**9:40-10:10 COFFEE BREAK**

**10:10-10:30 From Scratch to the Textbook: How Research can influence your daily practice**
**Flavio Hirai, MD, PhD**

**10:30-11:10 PAPER PRESENTATION – SESSION 8**

**Epidemiology**
*Moderators: Solange Rios Salomão, Adriana Berezovsky*

10:30-10:37 Opthalmological service quality offered to outpatients of private healthcare system - Benigno Vicente Santos Hercos, Pós-Doc

10:40-10:47 Prevalence of uncorrected presbyopia in middle-aged and older adults living in Parintins, Amazonas - João Marcello Fortes Furtado, Pós-Doc

11:00-11:07 Prevalence and outcomes of cataract surgery in an urban census sector of Parintins, Brazilian Amazon region – Sung Eun Song Watanabe, Pós-Doc

**11:20-12:30 POSTER - SESSION 2**

**Refractive Surgery (06), Bioengineering (02), Cataract (10), Retina and Vitreous (14), Oncology and Pathology (01)**

**12:30-14:00 LUNCH BREAK**

**14:00-14:20 The Melanoma Program**
**Miguel Burnier MD, PhD, FRCSC**

**14:20-15:30 PAPER PRESENTATION – SESSION 9**

**Retina, Vitreous and Oncology**
*Moderators: Michel E. Farah, Maurício Maia and Miguel Burnier Jr.*

14:20-14:27 Small gauge vitrectomy: pre, intra and postoperative implications in macular surgery – Leonardo Martins Machado, PG1

14:30-14:37 Micropulse diode laser treatment for chronic central serous chorioretinopathy: a randomized pilot trial – Luiz Roisman, PG1

14:40-14:47 Posterior hyaloid detachment and internal limiting membrane peeling using 10 natural vital dyes: experimental study in post-mortem eye – Magno Antonio Ferreira, PG1

14:50-14:57 Applicability of the dye composed of anthocyanins extracted from the Açai fruit (Euterpe oleracea) In chromovitrectomy. – Rafael Ramos Caiado, PG1

15:00-15:07 Learning curve of Descemet's membrane endothelial keratoplasty performed by cornea fellows – Renata Portella Nunes, PG1

15:10-15:17 Subretinal implantation of retinal pigment epithelial cells derived from human embryonic stem cells: from bench to clinic – Bruno Diniz, Pós-Doc

15:20-15:27 Analysis of plasmin activation by tPA in human vitreous – Silvana Maria Pereira Vianello, Pós-Doc

15:30-15:37 Ocular oncology in the Amazon – Rubens Belfort Neto, Pós-Doc

**15:40-16:00 COFFEE BREAK**

**16:00-16:20 Investigating Intraocular Lymphomas**
**Miguel Burnier MD, PhD, FRCSC**

**16:20-16:40 Advances in Intraocular Inflammation**
**Lucy H.Y. Young, M.D., Ph.D., FACS**

**16:40-17:30 PAPER PRESENTATION – SESSION 10**

**Retina and Vitreous**
*Moderators: Juliana Sallum, Eduardo Buchelle Rodrigues*

16:40-16:47 Correlation between choroidal thickness and choroidal blood flow in normal subjects – Eduardo Amorim Novais, PG1

16:50-16:57 Investigation of retinal biocompatibility and research on new dyes chromovitrectomy – Emmerson Badaró Cardoso, PG1

17:00-17:07 Mediators of ocular angiogenesis after bevacizumab intravitreal injections in patients with age-related macular degeneration – Thiago George Cabral Silva, PG1

17:10-17:17 Cytology impression findings in normal conjunctiva submitted to interferon a2b and normal conjunctiva submitted to mitomycin C 0.02% in rabbit eyes. Comparative experimental study – Simone Ribeiro de Araújo Almeida, PG1

17:20-17:27 Color variation assay of the anthocyanins from Açai fruit (Euterpe oleracea): a potential new dye for vitreoretinal surgery – Cristiane Siqueira Peris, PG0

17:30-17:33 Comparative study between lidocaine gel 2% and 5% for ophthalmic procedures – Helio Francisco Shiroma, PG0

17:35-17:38 Intravitreal ziv-zflibercept for the treatment of neovascular age-related macular degeneration – João Rafael de Oliveira Dias, PG0

17:40-17:43 New perspectives in macular hole surgery: innovative surgical techniques and prognostic classification for current practice – Oswaldo F. M. Brasil do Amaral, PG0

17:45-17:48 An innovative surgical technique for subretinal transplantation of human embryonic stem cell-derived retinal pigmented epithelium (hESC-RPE) in Yucatan mini pigs: preliminary results – Rodrigo A. Brant Fernandes, PG0

**18:00-18:15 DRAWINGS**

**18:15-18:30 FINAL REMARKS AND AWARDS ANNOUNCEMENT**

*José Alvaro P. Gomes and Denise de Freitas*

**18:30 ADJOURN**

*Organizing Committee*

# POSTERS

**December 4 - Thursday**

**11:30-12:30 POSTER - SESSION 1**
**Glaucoma (05), Cornea and External Diseases (10), Trauma (01), Strabismus (02), Orbit (01), Ocular Ultrasound (03), Electrophysiology (01), Epidemiology (01)**

1. Structural and functional assessment of glaucomatous patients with high and low-tension optic disc hemorrhages: a comparative study - Letícia Sant'Ana Cardoso da Silva, R1
2. Retinal nerve fiber layer evaluation in demyelinating diseases with spectral-domain optical coherence tomography and scanning laser polarimetry - Marcos Paulo Suehiro Dantas, R1
3. Selective laser trabeculoplasty for early glaucoma patients: predictors of short-term surgical outcomes - Mikael Kwang Chul Chun, R1
4. Risk factors associated with initial parafoveal scotoma in glaucoma patients with disc hemorrhage - Verena Ribeiro Juncal, R2
5. Ochronosis – Case Report - Marina Paes Leme Mothé Neder, R1
6. The use of scleral tissue in the Hospital São Paulo Eye Bank UNIFESP/EPM - Renata Tiemi Kato, R1
7. Etiological agents of microbial keratitis in a reference hospital in Brazil - Fábio Iglesias Marujo, R2
8. Clinical approach of translational medicine applied to Acanthamoeba keratitis - Marina Roizenblatt, R2
9. Risk factor for primary corneal graft failure: a case-control study - Nathalia Mayumi Thomaz de Aquino, R2
10. School children from Brazil and Bolivia: a comparison of keratometry and static refraction - Rafael Freire Kobayashi, R2
11. Indications for corneal transplantation at Universidade Federal de São Paulo - Marília Ikeda Serizawa, R4
12. The application only preoperative subconjunctival mitomycin C behavior of proliferative fibroblasts derived from pterygium primary - Thiago Gonçalves dos Santos Martins, R4
13. Drop volume of artificial tear solutions: pharmacoeconomic study - Alexandre Xavier da Costa, R4
14. Ocular trauma in São Paulo, during the FIFA World Cup Brazil 2014® - Mário Pincelli Netto, R2
15. Characteristics of strabismus in patients with cerebral palsy - Marilia Susane Birck, Fellow

16. Superior rectus transposition for sixth nerve palsy treatment - Carolina Hammes Torres, Fellow
17. Sebaceous gland carcinoma of the eyelid: a case report - Daniel Augusto Ghiraldini Vieira, R1
18. Ultrasound evaluation of sclerotomy sites after pars plana vitrectomy in diabetic patients, Fabiana da Fonte Gonçalves, Fellow
19. Comparative study of three optical biometers - Yara Cristina Lopes, MP
20. Optical and B-mode guided ultrasound biometry in cataract and intraocular silicone oil - Paulo Henrique De Souza, MP
21. Technology management in ophthalmology - Carla Ribeiro da Silva Santos, MP
22. Angiographic and OCT assessment in patients with diabetic nephropathy and without signs of proliferative retinopathy - Priscila Mariano de Moura, MP
23. Elaborate a project for establishing a tissue bank facility to provide amniotic membrane for use in ophthalmology - Juliana Cristina Lopes Matarezio, MP
24. Regulations about stem cell therapy for ocular surface reconstruction - Renata Taiar Saad, MP
25. Analysis of strategies for recruitment of volunteers patients for clinical trials - Cristina Akahoshi do Nascimento, MP
26. Frequency and causes clinics of negative electroretinogram over a 10-year period - Daniel Martins Rocha, MP
27. Evaluation of the informed consent form of clinical trials sponsored by pharmaceutical industries - Cintia Sayuri Futino Rodrigues, MP

# POSTERS

**December 5 - Friday**

**11:00-12:30 POSTER - SESSION 2**

**Refractive Surgery (06), Bioengineering (02), Cataract (10), Retina and Vitreous (14), Oncology and Pathology (01)**

1. Correlation of ocular measurements in individuals submitted to phakic intraocular lens implantation - Fábio Kenji Matsumoto, R1
2. Does corneal pachymetry profile depend on the refractive status of the eye? - Mariana Pissante Wisneski, R1
3. Biometry changes in eyes with central keratoconus implanted with intrastromal corneal ring segment arc 340° - Eduardo Bicalho Mariottoni, R2
4. Refractive and safety outcomes of ICL V4b posterior chamber phakic intraocular lenses in high myopia - Adriano Bogar, R3
5. Comparison of refractometric results: mechanical and transepithelial PRK - Geraldine Ragot de Melo, R3
6. Employing the Ishikawa diagram in a systematic case-control analysis to search the causes of a diffuse lamellar keratitis outbreak in a high volume excimer laser center - Luis Henrique Lopes Lira, R3
7. An ophthalmologic tool for cataract screening - Renan Albert Mendonça Rodrigues, R3
8. Visual outcomes after toric intraocular lens implantation - Bruno Rebello de Godoy, R2
9. Comparison of surgically induced astigmatism in phacoemulsification surgery between different experience grade surgeons - Cristiane Okazaki, R2
10. Intraocular lens (IOL) power calculation and visual outcome comparing optical (Lenstar) and ultrasound measurements - Danilo Andriatti Paulo, R2
11. Complications in cataract surgery performed by training surgeons at Paulista School of Medicine - Felipe Taveira Daher, R2
12. Quality of life evaluation after implantation of an aspheric foldable intraocular lens after cataract extraction through microincison - Fábio Ribeiro Colombo, R3
13. Agreement between different keratometry measurements for toric intraocular lens - Jacqueline Martins de Sousa, R3
14. Comparative analysis of measurements and postoperative refraction results of three optical biometers - Paula Delegrego Borba, R3
15. Preoperative orientation in cataract surgery in a public hospital: patients and experts understanding - Renan Braido Dias, R3

16. Epidemiological aspects of children with cataract evaluated from the congenital cataract sector at UNIFESP - Francieli Agrizzi, Fellow

17. Choroidal thickness comparison of non edematous and edematous macular areas in patients with diabetic macular edema using EDI-OCT - Felipe Pereira, R1
18. Evaluation of 577 nm multispot vs 532 nm single-spot panretinal photocoagulation for diabetic retinopathy: a clinical trial - José Belúcio Neto, R1
19. Regression of drusen after combined treatment using photodynamic therapy with verteporfin and ranibizumab: a case report - Mariah Mendes Rufino Uehara, R1
20. Early neural retinal changes in type 2 diabetes mellitus: an OCT study - Müller Gonçalves Urias, R1
21. Effects of intracameral carbachol in macular morphology following phacoemulsification surgery - Murilo Bertazzo Peres, R1
22. Daily OCT examination after first anti-VEGF injection: Implication for drug pharmacokinetics - Felipe Abdo Jorge, R2
23. Evaluation of choroidal thickness using enhanced depth imaging optical coherence tomography (EDI - OCT) in asymptomatic sickle cell pediatric patients - Adriano de Morais Ferreira, R3
24. Heavy silicone oil as a long-term endotamponade agent for complicated retinal detachment - Diego Monteiro Verginassi, R3
25. Endophthalmitis: a comparative evaluation between real-time polymerase chain reaction (PCR) test and conventional microbiological diagnostic methods - Grace Peng, R3
26. Hyperbaric oxygen therapy for choroidal neovascularization: a pilot study - Lucas Valadão de Brito Soares, R3
27. Treatment of retinal pigmented epithelium detachment (PED) secondary to idiopathic polypoidal choroidal vasculopathy with intravitreal injections of bevacizumab biweekly - Roberta Andrade e Nascimento, R3
28. Intravitreal injections of bevacizumab versus injections associated with yellow diode micropulse laser in the treatment of diabetic macular edema - Camila Oliveira Xavier, Fellow
29. The application of different techniques and primers to detect T. gondii DNA in retinas from eye bank eyes - Deise Fialho Costa, Fellow
30. Clinical features of consecutive patients with retinoblastoma treated in GRAAC/UBUFESO - Alexandre Gomes Bortoloti de Azevedo, R2

## 2014 Research Days Abstract Form

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

Review the Scientific Section Descriptions. Select and enter the two-letter Code for the one (1) Section best suited to review your abstract.

**(GL) GLAUCOMA**

1. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Christiana V. Rebello Hilgert**

**Service: (GL) GLAUCOMA | (EX) EXPERIMENTAL SURGERY**

**CEP Number: 1227/09**

3. PRESENTATION PREFERENCE (REQUIRED) Check one:

**Paper**

4. The signature of the First (Presenting) Author (REQUIRED) acting as the authorized agent for all authors, hereby certifies that any research reported was conducted in compliance with the Declaration of Helsinki and the 'UNIFESP Ethical Committee"

_____

Scientific Section Descriptions (two-letter code):

(BE) OCULAR BIOENGINEERING
(CO) CORNEA AND EXTERNAL DISEASE
(CA) CATARACT
(EF) ELECTROPHYSIOLOGY
(EP) EPIDEMIOLOGY
(EX) EXPERIMENTAL SURGERY
(GL) GLAUCOMA
(LA) LABORATORY
(LS) LACRIMAL SYSTEM
(LV) LOW VISION
(NO) NEURO-OPHTHALMOLOGY
(OR) ORBIT
(PL) OCULAR PLASTIC SURGERY
(PH) PHARMACOLOGY
(RE) RETINA AND VITREOUS
(RS) REFRACTIVE SURGERY
(RX) REFRACTION-CONTACT LENSES
(ST) STRABISMUS
(TR) TRAUMA
(TU) TUMORS AND PATHOLOGY
(UV) UVEITIS
(US) OCULAR ULTRASOUND

**Deadline: 10/2014**

FORMAT:

Abstract should contain:

**Title**
**Author, Co-authors (maximum 6), Purpose, Methods, Results, Conclusion.**

Poster guidelines:
**90cm x 120cm**

5. ABSTRACT (REQUIRED):


**Title:** ANTI-SCARRING EFFECT OF INTRAOPERATIVE BEVACIZUMAB AND MITOMYCIN C ALONE AND COMBINED ON MODIFIED GLAUCOMA FILTRATION SURGERY IN RABBITS.

**Author and Co-authors:** Christiana Rebello Hilgert
Alvaro Haverroth Hilgert
Alexandre Nakao Odashiro
Patr?cia Rusa Pereira Odashiro
Augusto Paranhos Jr

**Purpose:** To determine the effects of bevacizumab and mitomycin C (MMC) alone and combined on intraocular pressure and scarring process after modified glaucoma filtration surgery (GFS) in rabbits

**Methods:** Randomized, prospective, masked-observer study was performed. Thirty New Zealand white rabbits underwent filtration surgery and were allocated into three groups to receive intraoperatively in Group A: subconjuctival bevacizumab, Group B: MMC and subconjunctival bevacizumab and in Group C: MMC. Intraocular pressure was measured on immediate preoperative period and on postoperative days 8, 14, 17, 21, 26 and 30. Scarring process was addressed 30 days after the surgery by tissue section using Hematoxylin Eosin, Masson?s Trichrome and Picrosirius. Vascular Endothelial Growth Factor (VEGF) expression was addressed by immunohistochemical analyses.

**Results:** Group A had higher IOP compared with B and C ($P<0.01$). No significant differences between groups B and C were found. The amount of fibrosis were similar with all stains used: Group A had the highest level of fibrosis comparing to groups B and C ($P>0.05$). There was less VEGF expression on Group A comparing to groups B and C ($p<0.01$). There was no difference between group B and C regarding VEGF expression

**Conclusion:** Bevacizumab associated with MMC had lower IOP means and less fibrosis but it was not statistically significant when compared to MMC alone. A higher inhibition of VEGF was found when bevacizumab was used alone, rather than when combined with MMC.



**Keywords:** bevacizumab, mitomycin, glaucoma, trabeculectomy, experimental

## 2014 Research Days Abstract Form

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

Review the Scientific Section Descriptions. Select and enter the two-letter Code for the one (1) Section best suited to review your abstract.

**(GL) GLAUCOMA**

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**Paper**

4. The signature of the First (Presenting) Author (REQUIRED) acting as the authorized agent for all authors, hereby certifies that any research reported was conducted in compliance with the Declaration of Helsinki and the 'UNIFESP Ethical Committee"

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(UV) UVEITIS
(US) OCULAR ULTRASOUND

**Deadline: 10/2014**

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Abstract should contain:

**Title**
**Author, Co-authors (maximum 6), Purpose, Methods, Results, Conclusion.**

2. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Fábio Lavinsky**

**Service: (GL) GLAUCOMA**

**CEP Number: 90470-320**

5. ABSTRACT (REQUIRED):

**Title:** Measurement of the Hypotenuse of the Optic Disc Cupping with Spectral Domain Optic Coherence Tomography Enhanced Depth Imaging compared with Standard Automated Perimetry

**Author and Co-authors:** Fabio Lavinsky, Camila Zanela, Nedio Cast?ldi, Paulo Agusto Arruda Mello

**Purpose:** To assess the hypotenuse of the optic disc cupping (HODC), a parameter that evaluates either the length and the depth of the optic disc cupping, measured by spectral-domain optical coherence tomography (SD-OCT) enhanced depth imaging (EDI), and its functional correlation with the mean deviation (MD) of the standard automated perimetry (SAP).

**Methods:** A prospective transversal study was performed. Eyes with optic nerves less than 1.5mm and more than 2.0mm in total extension were excluded. A hundred and fifty eight eyes had the HODC measured by SD-OCT (Specralistm from Heildelberg Engineeringtm) EDI by only one experienced examiner. The largest vertical cup was screened, and the length of the cupping was measured by a caliper from the end of the neural tissue at the level of RPE line, the depth was measured with a line 90 degrees from the previous one until the deepst point of the lamina cribosa. Those two lines consisted into the legs of the triangle used to calculate the HODC. SAP was performed using HumphreyTM perimetry (Zeisstm), strategy SITA-Standrd 24-2. The analysis of the correlation was performed using the linear mixed models of the Statistical Package for Social Sciences SPSS, Chicago, IL, USA version 2.0.

**Results:** The analysis was performed dividing the patients in four groups of HODC: group 1 had a mean HODC of 844,47?m, group 2 of 1177,95?m, group 3 of 1401,57?m and group 4 of 1662,41?m. The first group had a mean MD of -4,75dB (Standard Error=1,56); the second of -6,04dB (Standard Error=1,47); the third of -9,66dB (Standard Error=1,40); and the forth of -12,00dB (Standard Error=1,43). There were statistically significant correlations between group 1 and group 4 ($p<0.004$), between group 2 and 4 ($p<0.015$), and a borderline correlation between group 1 and group 3 ($p<0.082$).

**Conclusion:** The measurement of HODC by SD-OCT EDI provides a numeric parameter obtained from two important hallmarks of the glaucomatous nerve: the length of the cupping and the depth of the collapse of the lamina cribosa. This measurement can be used as an additional structural parameter to evaluate glaucoma. In our study, we found a structural-functional correlation of this parameter with the results of SAP.

**Keywords:** OCT

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**Author, Co-authors (maximum 6), Purpose, Methods, Results, Conclusion.**

Poster guidelines:
**90cm x 120cm**

3. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Rafael Lacerda Furlanetto**

**Service: (GL) GLAUCOMA**

**CEP Number: 0929/10**

5. ABSTRACT (REQUIRED):

**Title:** CUP-TO-DISC RATIO MEASURED BY 20 MHz ULTRASOUND IN THE ANALYSIS OF THE OPTIC NERVE HEAD IN GLAUCOMA

**Author and Co-authors:** Rafael L. Furlanetto; Sergio H. Teixeira; Tiago S. Prata; Norma Allemann; Augusto Paranhos Jr

**Purpose:** To evaluate the performance of 20 MHz ultrasonography (US) in assessing the cup-to-disc ratio (CDR) of the optic nerve head (ONH) in comparison with currently available structural tests for glaucoma.

**Methods:** This was a cross-sectional study including healthy volunteers and glaucoma patients with wide range of visual field (VF) damage. All participants underwent high-resolution US with 20 MHz probe (VuMax II, Sonomed, Inc.), optic disc stereophotograph (SPH), optical coherence tomography (OCT; Cirrus HD-OCT) confocal scanning laser ophthalmoscopy (HRT) and VF testing. US images were obtained using a para-axial orientation with closed eyelids and the fellow eye was kept in primary gaze. The optic disc size was considered as the largest diameter of the scleral canal, whereas the cup size was considered as the largest diameter of the hypo-reflective area within ONH parallel to the scleral canal opening. Optic disc and cup measurements were obtained by an experienced examiner masked to clinical data. Statistical analysis included Bland-Altman plots and area under receiving operator characteristics curve (AUC).

**Results:** We included 53 subjects (106 eyes; 41 glaucoma patients and 12 controls), of which 56.86% were women. Mean age was 62.9?0.7 years in glaucoma and 62.3?6.2 years in control groups (p=0.9). Mean Mean Deviation (MD) was -15.4?9.9 dB in glaucoma group. When glaucoma diagnosis was determined by VF damage according to the Hodapp-Parrish-Anderson criteria, the AUC for US vertical CDR was 0.846 (95% confidence interval [CI], 0.76?0.93), whereas for SPH, HRT and OCT were 0.992 (95% CI, 0.98?1.0), 0.946 (95% CI, 0.90?0.99) and 0.988 (95% CI, 0.97?1.0), respectively. The mean difference of CDR between SPH and US was 0.48 (95% CI, 0.19?0.76), as US tended to underestimate CDR measurements systematically.

**Conclusion:** Our findings suggest that 20 MHz US may provide a useful quantitative assessment of the CDR in glaucoma. This may be advantageous mainly in eyes with media opacity, in which clear optic media-based exams, such as OCT, HRT and SPH, are unviable or do not provide reliable information. However, we observed that US tended to underestimate CDR results in comparison with other structural tests.

**Keywords:** 20 MHz ultrasound, glaucoma, cup-to-disc ratio

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4. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Christiane R. Rolim De Moura**

**Service: (GL) GLAUCOMA**

**CEP Number: 1781/08**

5. ABSTRACT (REQUIRED):

**Title:** Fetal ocular measurements by three-dimensional ultrasound

**Author and Co-authors:** Karine Duarte Bojikian, Christiane Rolim de Moura, Ivan Maynart Tavares, Mauro Toledo Leite, Antonio Fernandes Moron

**Purpose:** To establish a reference range for normal fetal eye volume (FEV) by three-dimensional ultrasound using Virtual Organ Computer-aided AnaLysis (VOCAL) method and compare the reproducibility between the two trace modes (manual and sphere)

**Methods:** This prospective, longitudinal observational study was performed at a single center and involved 71 eyes of 37 fetuses between 17 and 40 weeks of gestational age. Only pregnancies without fetal growth restriction, diabetes mellitus, hypertension, or major fetal malformation were included. Fetuses? eye measurements were obtained by a single observer during routine ultrasonographic examination

**Results:** Mean FEV manual mode ranged from 309.5 +- 80.1 mm3 at 17-18 weeks to 2552.1 +- 384.9 mm3 at 39-40 weeks. Mean FEV sphere mode ranged from 394.8 +- 71.8 mm3 at 17-18 weeks to 2682.1 +- 343.4 mm3 at 39-40 weeks. Correlations ranged from R2=0.85 (transversal diameter and gestational age) to R2=0.91 (FEV sphere mode and gestational age). All correlations were statistically significant ($P < 0.001$). Although highly correlated ($R2 = 0.97$, $P < 0.001$), there was a fixed bias between manual and sphere measurements. The agreement between these measurements showed no proportional bias ($P = 0.89$)

**Conclusion:** The present study establishes reference values for FEV using the VOCAL method manual mode. These normal growth parameters can be used in routine ultrasound assessment of the fetal eye, especially in families at risk of genetic diseases that affect ocular growth, such as congenital glaucoma

**Keywords:** Eye/embryology, Female, Gestational, Three-Dimensional Organ Size/physiology,Ultrasonography, Prenatal/methods

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5. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Andréa Cotait Kara José Senra**

**Service: (GL) GLAUCOMA**

**CEP Number: 1438/05**

5. ABSTRACT (REQUIRED):

**Title:** Correlation Between Disc Damage Likelihood Scale and Cup-To-Disc Ratio, Visual Field and Retinal Nerve Fiber Layer Thickness in Normal and Glaucomatous Eyes.

**Author and Co-authors:** A.C. Kara-Jos?, L.A.S Melo, Jr., M.T. Leite, A.T.N.H. Endo, B.H.V.Escute, I.M. Tavares.

**Purpose:** To determine the correlation between Disc Damage Likelihood Scale (DDLS) and cup-to-disc ratio, visual field mean deviation (MD) index and retinal nerve fiber layer (RNFL) thickness in normal and glaucomatous eyes.

**Methods:** One hundred and twenty eyes of 61 healthy individuals and 89 eyes of 49 patients with Primary Open-Angle Glaucoma were included in this observational, cross-sectional study. DDLS score and cup-to-disc ratio were evaluated by a trained physician using a 78-diopter lens. Visual field mean deviaton (MD) was obtained by automated perimetry with the Swedish Interactive Thresholding Algorithm (SITA) Standard 24-2 test (HFA II; Carl Zeiss Meditec Inc., Dublin, CA). Peripapillary RNFL thickness was measured by Time-Domain Optical Coherence Tomography (TD-OCT; Stratus; software version 5.0.1, Carl Zeiss Meditec Inc.) and Spectral-Domain OCT (SD-OCT; Spectralis; software version 4.0, Heidelberg Engineering, Dossenheim, Germain). Correlations between DDLS score and cup-to-disc ratio, visual field MD index and RNFL average thickness were evaluated by Spearman's rank correlation coefficient (r).

**Results:** The Mean (Standard Deviation) for the studied parameters were: DDLS score: 4.5 (2.1), vertical cup-to-disc ratio: 0.67 (0.21), horizontal cup-to-disc ratio: 0.64 (0.21), visual field mean deviation index (dB): -3.52 (5.97), RNFL average thickness (?m) for Spectralis: 92.5 (22.8) and for Stratus: 84.3 (17.9). A strong positive correlation was found between DDLS and vertical and horizontal cup-to-disc ratio (respectively: Spearman r = 0.87; P < 0.001 and Spearman r = 0.88; P < 0.001). Weaker correlations were found between DDLS and visual field MD index (r = -0.43; P < 0.001), Stratus RNFL average thickness (r = -0.53; P < 0.001) and Spectralis RNLF average thickness (r = -0.58; P < 0.001).

**Conclusion:** The present study showed that the DDLS is significantly correlated with both structural and functional parameters in normal and glaucomatous eyes.

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6. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Claudia Cardoso Maestri Ferreira**

**Service: (GL) GLAUCOMA**

**CEP Number: 152296**

5. ABSTRACT (REQUIRED):

**Title:** Applanation tonometry versus pachymetry in newborns

**Author and Co-authors:** Claudia Maestri

**Purpose:** The aim of this study is to evaluate the pachymetry and relate it to applanation tonometry in infants born at term to assist in early diagnosis of glaucoma.

**Methods:** In the first visit, some exams will be executed to collect the data for study as biomicroscopy, measure of intraocular pressure using applanation tonometer, measure of thickness of cornea (part of eye transparent) using pachymeter and fundus examination. All exams will be done under anesthesy except fundus examination will be done under pupil dilation. This procedure will take about 30 minutes.

**Results:** NA

**Conclusion:** NA

**Keywords:** Glaucoma, Newborns, Pachmetry, tonometer

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7. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Flávio Siqueira Santos Lopes**

**Service: (GL) GLAUCOMA**

**CEP Number: 32733**

5. ABSTRACT (REQUIRED):

**Title:** USING PRE-LAMINAR NEURAL TISSUE BASED INDICES FOR GLAUCOMA ASSESSMENT

**Author and Co-authors:** Flavio Siqueira S Lopes, Paula Borba, Roberto Vessani, Augusto Paranhos Jr, Tiago S Prata

**Purpose:** Use pre-laminar neural tissue thickness values obtained trough enhanced depth imaging spectral-domain optical coherence tomography (EDI-OCT) to build new structural indices for glaucoma assessment

**Methods:** We prospectively enrolled glaucomatous patients, glaucomatous suspects, and healthy controls. Exclusion criteria were the presence of significant media opacity or any ocular disease besides glaucoma. All participants underwent EDI-OCT (Spectralis?, Heidelberg Engineering Co., Germany) and visual field assessment using the Humphrey Visual Field Analyzer. The following optic nerve head (ONH) parameters were evaluated: lamina cribrosa and pre-laminar neural tissue thicknesses (PLNTT), scleral canal diameter (Bruch?s membrane opening), and cup depth. Two independent examiners assessed all EDI-OCT images (poor quality images were not included in the analysis). Three PLNTT based parameters [PLNTT to disc ratio (PLNTT/D), PLNTT to cup depth ratio (PLNTT/CD), and the PLNTT values itself] were compared among groups using analysis of covariance (accounting for age differences). Areas under receiver operating characteristic curves (AUCs) were calculated for each index and compared using the DeLon

**Results:** 25 eyes of 25 patients were included. Glaucomatous patients (including those from the suspect group) were significantly older than controls (p=0.01). Average visual field mean deviation of glaucomatous eyes was -4.5?3.6dB. The three indices differed significantly between glaucomatous patients and controls (p?0.01); all indicating a significant pre-laminar neural tissue loss in glaucomatous eyes. In addition, the three indices showed good discrimination ability, with no significant differences between their AUCs (PLNTT/D, =0.87; PLNTT/CD, 0.84; PLNTT, 0.91; p?0.18)

**Conclusion:** Using the EDI method to evaluate deep ONH structures in vivo, we found a significant reduction in pre-laminar neural tissue thickness in glaucomatous eyes. In this population with moderate glaucomatous damage, the three proposed indices showed good diagnostic performance. We believe these initial results deserve further evaluation, especially in a subset of patients with early functional damage

**Keywords:** glaucoma, OCT, optic disc

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8. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Maria Vitória Oliveira Moura Brasil**

**Service: (GL) GLAUCOMA**

**CEP Number: 0**

5. ABSTRACT (REQUIRED):

**Title:** Incidence of glaucoma after facoemulsification or pars plana lensectomy for congenital cataracts

**Author and Co-authors:** Brasil MV, Cerveira SV, Zin A

**Purpose:** To determine the incidence of glaucoma in infants with congenital cataracts treated either with facoemulsification or pars plana lensectomy

**Methods:** Retrospective chart review of congenital cataract surgeries performed between 2008 and 2012 in infants up to 12 months-old. Children with a minimal follow up of 2 years were included. Infants were either treated with facoemulsification (FACO) without intraocular lens implantation or 23 gauge pars plana vitrectomy and lensectomy (PPL) with posterior and anterior capsulotomies for secondary intraocular lens implantation in the future.

**Results:** A total of 54 eyes of 54 patients were included. 12 patients had bilateral surgery and only the first eye was included. FACO was performed in 24 (44.5%) cases and PPL in 30 (55.5%) cases. Average age at the time of the surgery was 5.1 months in the FACO and 4.5 in the PPL group. Mean follow-up was 38.2 months for the FACO and 28.6 months for the PPL group. Incidence of glaucoma was 16.7% in the FACO and 6.7% in the PPL group (p=0.38).

**Conclusion:** There was no significant difference in the incidence of glaucoma between FACO and PPL groups.

**Keywords:** congenital cataract, glaucoma, facoemulsification, pars plana vitrectomy, lensectomy

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9. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Julia Dutra Rosseto**

**Service: (ST) STRABISMUS**

**CEP Number: 777128**

5. ABSTRACT (REQUIRED):

**Title:** Pre and postoperative evaluation of limbus-insertion distance of the extrinsic ocular muscles with Spectral Domain OCT

**Author and Co-authors:** Rossetto JD, Torres CH, Allemann N, Belfort R Jr

**Purpose:** To determine the ability and accuracy of optical coherence tomography in measuring distance limbo-insertion of the extrinsic ocular muscles in the preoperative and postoperative strabismus surgery.

**Methods:** Patients eligible for outpatient strabismus surgery in ophthalmology UNIFESP / EPM will be invited to participate and sign the term of free and informed consent.
Non-invasive and non-contact optical coherence tomography exams will be conducted. These measures will be compared with intraoperative measurements with compass before and after surgical intervention. Procedures may cause mild discomfort and minimal risk and will not cause increase in surgical time. The OCT examination will then be repeated 15 days after surgery.
For statistical analysis, the Pearson correlation coefficient, intraclass correlation coefficient and Bland-Altman test will be used.

**Results:** In progress

**Conclusion:** In progress

**Keywords:** limbus-insertion distance; strabismus; OCT; strabismus surgery

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10. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Luisa Moreira Hopker**

**Service: (ST) STRABISMUS | (PH) PHARMACOLOGY**

**CEP Number: ceua 882803**

5. ABSTRACT (REQUIRED):

**Title:** Histopathological and Immunohistochemical Findings after Bupivacaine Injection in Extraocular Muscle of Rabbits

**Author and Co-authors:** Luisa Moreira Hopker, Juliana Neves, Tom?s Scalamandr? Mendon?a, Marcia Lowen, Edmar Zanotelli, Norma Allemann

**Purpose:** This study will evaluate histological and immunohistochemical changes of extraocular muscle after Bupivacaine injection in rabbits.

**Methods:** Twenty-eight adult white New Zealand white rabbits divided in 3 groups, received 0.3ml of Bupivacaine 1.5% in their right superior rectus 6mm from the insertion of the muscle with the aid of Mendon?a?s forceps and under topical anesthesia. They were divided in 4 groups and euthanized after 7, 28, 60 and 92 days. Superior and inferior rectus muscles of both eyes were excised immediately frozen and stored until processed for histological analysis. Transverse sections (8-10 micra) 5 to 7mm from the insertion were cut on a cryostat. The sections were stained with hematoxylin and eosin, Masson trichrome and acid phosphatase for overall morphologic assessment. Immunohistochemistry was also performed through immunoperoxidase technique. Inflammation, myonecrosis, satellite cells proliferation, types of myosin expression during regeneration period, number of fibers and myofiber diameter were evaluated.

**Results:** Partial results: Superior e inferior rectus of both eyes of 4 rabbits were evaluated: 8 SR and 8 IR. Two of them were euthanized after 7 days of Bupivacaine injection and other 2 rabbits after 28 days.
The proportion of myosin type 1, type 2 and embryonic of the total fibers in the superior rectus of OD in the 7-day group were 0.79, 0.63 and 0.92 while in the 28-day group were 0.20, 0.84 and 0.43. In the superior rectus of OS the proportion of myosin type 1, type 2 and embryonic of the total fibers in the 7-day group were 0.87, 0.33 and 0.88 while in the 28-day group were 0.31, 0.78 and 0.33, respectively. Inflammation, myonecrosis, satellite cells proliferation and myofiber diameter are yet to be evaluated.

**Conclusion:** Different proportions of myosin types 1, 2 and embryonic occur after bupivacaine injection in the extraocular muscle of rabbits comparing the samples on days 7 and 28 after injection. A control group as well as a larger number of rabbits is needed for comparison.

**Keywords:** strabismus: treatment, drug toxicity/drug effects, extraocular muscles: structure, immunohistochemistry

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11. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Marco Antonio Campos Machado**

**Service: (LS) LACRIMAL SYSTEM | (US) OCULAR ULTRASOUND**

**CEP Number: 16883113.6.0000.5505**

5. ABSTRACT (REQUIRED):

**Title:** Comparison between Thermograpy and Ocular Ultrassound in Patients with dacryocystitis

**Author and Co-authors:** Marco Antonio de Campos Machado
Norma Allemann, João Amaro Ferrari Silva, Marcos Leal Brioschi

**Purpose:** Comparison between Thermograpy and Ocular Ultrassound in Patients with chronic dacryocystitis

**Methods:** Study with 25 patients with chronic dacryocystitis using hermograpy and Ocular Ultrassound

**Results:** We haven`the themography camera yet. We sent an article to Arquivos Brasileiros de Oftlamologia in September of this year.

**Conclusion:** Thermography showed different images in a patiente wiht acute dacryocystitis

**Keywords:** Thermography; Lacrimal, Ultrassound, Ocular, Temperature.

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12. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Teissy Hentona Osaki**

**Service: (PL) OCULOPLASTICS SURGERY**

**CEP Number: 295/11**

5. ABSTRACT (REQUIRED):

**Title:** Evaluation of corneal topography indices in patients with hemifacial spasm treated with onabotulinum toxin-A

**Author and Co-authors:** Osaki, T; Osaki, MH; Osaki, TH; Hirai, F; Campos, M

**Purpose:** To evaluate objective corneal changes in patients with hemifacial spasm after application of onabotulinum toxin-A and to analyze associations of these changes with visual acuity

**Methods:** Prospective study in 24 patients with hemifacial spasm(HFS) treated with onabotulinum toxin-A at the Oculoplastics division, UNIFESP.
Quantitative descriptors of corneal topography were measured with the Pentacam topographer and 7 indices were included: index of surface variance(ISV), index of vertical asymmetry(IVA), keratoconus index(KI), central keratoconus index(CKI), index of height asymmetry(IHA), index of height decentration(IHD) and minimum radius of curvature(Rmin). These indices were compared: 1. between the affected eye and the fellow eye before, 15 days, 2 and 3 months after the treatment; 2. for each eye before, 15 days, 2 months and 3 months after treatment. Best corrected distance visual acuity was measured using Logmar scale.

**Results:** Twenty four patients (8 males) with HFS were evaluated. The mean age was 66,25 years of age.
Regarding the analysis between the affected and the fellow eye, there were significant differences ($p<0,05$) in the IVA, IHD and Rmin before the treatment and, IHD on the 15 days and 2 months after treatment.
Regarding the analysis for each eye before and after treatment, there were significant changes ($p<0.05$) in KI in both hemifacial spasm eyes and fellow eyes, comparing the pre and 15 days post treatment. The change in this index was also statistically significant comparing the pre and 3 months post treatment, only in hemifacial spasm eyes.
The best corrected distance visual acuity showed significant difference comparing the eyes with hemifacial spasm and the fellow eyes only before treatment.

**Conclusion:** Analysis of topometric indices showed statistically significant differences in the IVA, IHD and Rmin, between affected eyes and the fellow eyes in patients with hemifacial spasm. The treatment with onabotulinum toxin A appears to improve corneal topography, as shown by significant changes observed in the KI, before and after treatment, suggesting some improvement in the optical contour of the cornea, although no significant improvement of visual acuity was observed.

**Keywords:** Hemifacial spasm, corneal topography indices

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13. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Eduardo Alonso Garcia**

**Service: (LS) LACRIMAL SYSTEM**

**CEP Number: 0463/10**

5. ABSTRACT (REQUIRED):

**Title:** LACRYMAL RECANALIZER (Recanalization of the naso lachrymal duct with high frequency)

**Author and Co-authors:** Garcia EA, Machado MAC , da Silva JAF, Magalh?es O, Nose W

**Purpose:** Analyse the use of high frequency to restore lachrymal flow in dacriocistitis

**Methods:** Pacients with chronic dacriocisitis, older than 18 y.o., no previous surgical treatment, no peace maker were submited to recanalization of naso lacrymal duct with high frequency and probing bicanalicularwith silicone under local anesthesia. The results of 2 devices with different frequencies (450Khz x 4Mhz) were compared

**Results:** 450Khz device (n=72) : success 58 (80,5%) / failure 14 (19,5%) , 4Mhz device (n=36): success 30 (83,3%) / failure 6 (16,7%)

**Conclusion:** Recanalization of naso lacrymal duct is an interesting approach for lacrymal obstruction, with no scar, no bleeding, minimum interference in lacrymal bomb , without the necessity to do a osteotomy and good results. The results with the 4Mhz device presented better rates than the 450Khz device.

**Keywords:** dacriocistitis, high frequency, lacrymal system

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14. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Fábio Barreto Morais**

**Service: (UV) UVEITIS | (EP) EPIDEMIOLOGY**

**CEP Number: 692327**

5. ABSTRACT (REQUIRED):


**Title:** Serological survey of toxoplasmosis associated with ophthalmologic examination in schizophrenia patients

**Author and Co-authors:** F?bio Barreto Morais, MD, Tiago Eugenio Farias e Arantes MD, PHD, Cristina Muccioli MD, PhD

**Purpose:** We will investigate the seroprevalence of T. Gondi (Schizophrenia outpatients x Control Group). Search about ophthalmologic findings in these patients that suggests uveitis. Socio-demographic, clinical characteristics from the study subjects will also be observed.

**Methods:** A case-control study >> University hospital of Federal University of Sergipe. ? 2 groups: Schizophrenia outpatients x Control Group. The control group consists of volunteers patients of the University hospital of Federal University of Sergipe. (healthy people ? without psychiatric disorders). The schizophrenia outpatients will be refer to the psychiatric service University hospital of Federal University of Sergipe. Informed consent the parent or guardian of the Schizophrenia outpatients must provide informed consent on behalf of the patient. People under the age of 18 are excluded. Ophthalmologic examination. Search about signs of uveitis. Administer a questionare ( habits of life / socioeconomics aspects).Collection of blood samples. (quiminluminescence/ IgG ,IgM). Chi-square and Fisher's statistical tests.

**Results:** : 30 schizophreniapatients e 81 healthy people were examined .Overall prevalence rates of anti-T. gondii antibodies (IgG) in case and control groups were 90 % and 71,6 %, respectively. IgMantibodies (acuteform) weren`t seen in any patients.1(1,23 %)patient of the control group had signs of previously anterior uve?tis and 2(6,7 %) of the schizophrenic group had a retinochoroidal scar.

**Conclusion:** It appears that there are an enlarged prevalence of a serology positive (Ig G +) of Toxoplasmosis and a higher presence of retinochoroidal scars in the schizophrenia group



**Keywords:** toxoplasmosis, schizophrenia, uveitis

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15. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Heloisa Moraes Do Nascimento Salomão**

**Service: (LA) LABORATORY | (CO) CORNEA AND EXTERNAL DISEASE**

**CEP Number: 1422/06**

5. ABSTRACT (REQUIRED):

**Title:** Detection of Herpes Simplex 1 and 2 and Varicella Zoster Virus by Real-Time Polymerase Chain Reaction in Corneal Scrapings from Patients with Bacterial Keratitis

**Author and Co-authors:** Heloisa Nascimento,MD*, Aripuan Watanabe,PhD Ana Carolina Cabreira Vieira,MD*, Andrea Pelegrini,MsC Maria Cecilia Yu, MsC Paulo Jose Martins Bispo PhD, Celso Francisco Hernandes Granato,MD, Ana Luisa H?fling-Lima,MD*

**Purpose:** To assess the presence of herpes simplex (1 and 2) and varicella zoster virus (VZV) by real-time polymerase chain reaction in corneal scrapings from patients with clinically suspected bacterial keratitis.

**Methods:** The total of 65 patients underwent clinical eye exam and had corneal scrapings studied by gram, giemsa, culture and real-time polymerase chain reaction (RT-PCR). Risk factors and epidemiological data were recorded.

**Results:** Nine patients (13.8%) had negative smears, cultures, or PCR findings. Fifty-six (86,2%) patients had positive cultures, 51 for bacteria, 4 for fungi and 1 for ameba. RT-PCR identified 10 patients from the positive culture patients who were also positive for virus, one with VZV and nine with HSV-1.

**Conclusion:** Herpes may be present in patients with bacterial corneal ulcers and Real-Time PCR may be useful in its detection.

**Keywords:** herpes simplex virus, infectious keratitis, polymerase chain reaction, varicella zoster virus

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16. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Nicolas Cesário Pereira**

**Service: (CO) CORNEA AND EXTERNAL DISEASE**

**CEP Number: CEP do Hospital Oftalmológico de Sorocaba**

5. ABSTRACT (REQUIRED):

**Title:** Learning curve of descemet membrane endothelial keratoplasty performed by cornea fellows

**Author and Co-authors:** Nicolas Cesario Pereira, Adriana dos Santos Forseto, Aline Moriyama, Patricia Serapicos, Jose Alvaro Pereira Gomes

**Purpose:** To evaluate the learning curve of descemet membrane endothelial keratoplasty (DMEK) performed by cornea fellows, to describe the results and complications.

**Methods:** Prospective evaluation of patients with Fuchs dystrophy or bullous keratopathy that underwent DMEK by second year cornea fellows at Sorocaba Eye Bank. All surgeries were supervised by an experied DMEK surgeon (N.C.P.). The following clinical data were evaluated: best corrected visual acuity, intraocular pressure, slit lamp biomicroscopy, specular microscopy, pachymetry and complications. The follow up was done at 1, 7, 30, 60, 90 and 180 days after surgery

**Results:** 35 DMEKs were performed by 14 cornea fellows. The results and complication rate will be described.

**Conclusion:** DMEK provides fast visual rehabilitation with good visual results. DMEK has a steep learning curve and a higher complication rate is expected in the first surgeries of cornea fellows. A shorter learning curve can be achieved with supervised surgeries.

**Keywords:** endothelial keratoplasty, fuchs dystrophy, bullous keratopathy

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17. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Viviane Peracini Sant'ana**

**Service: (CO) CORNEA AND EXTERNAL DISEASE**

**CEP Number: 0343/12HE**

5. ABSTRACT (REQUIRED):

**Title:** Cytotoxic activity and degradation patterns of structural proteins by corneal isolates of Acanthamoeba spp

**Author and Co-authors:** Viviane Peracini Sant?ana, Linda Carrijo-Carvalho, Annette Foronda, Denise de Freitas, F?bio Carvalho.

**Purpose:** Acanthamoeba keratitis is a painful and sight-threatening disease. Trophozoites are able to trigger degradation of corneal components by secretion of proteolytic enzymes called secretome. The aims of this study were to characterize the proteolytic patterns displayed by Acanthamoeba trophozoites on corneal components and to investigate the cytopathic effect by contact-independent mechanism.

**Methods:** The enzymatic activity of secretomes from eleven corneal isolates of Acanthamoeba was assessed using laminin, fibronectin and tubulin as substrates. The diversity and molecular weight of proteolytic enzymes were characterized by SDS-PAGE-gelatin. Degradation patterns were subjected to cluster analysis. The toxicity of Acanthamoeba secretomes on endothelial cell culture were evaluated by qualitative and quantitative methods.

**Results:** The enzymes of Acanthamoeba ranged in molecular mass between 76 and 288 kDa. Pairwise similarities among secretomes demonstrated the occurrence of five different groups of proteolytic profiles. One isolate showed a weak hydrolytic activity, consistent with the results on laminin, fibronectin and tubulin. The susceptibility of the soluble proteins to enzymatic digestion by Acanthamoeba secretome showed diverse degradation profiles with the occurrence distinct clusters. Enzymes from six isolates displayed complete cleavage of both alpha and beta subunits of laminin. All secretomes analyzed displayed a complete degradation of the 220 kDa subunits of fibronectin, with the exception of one isolate. Qualitative and quantitative data demonstrated the potential capacity of the secretome in the induction of endothelial cell death by apoptosis. The cells exhibited differential rates of cell viability, with a median reduction of 30%, after contact with secretomes from distinct Acanthamoeba isolates.

**Conclusion:** Results showed the proteolytic activity of amoebic secretome in the degradation of the major proteins of the cornea. Amoebic secretome also showed a presumptive role in impairment of microtubule organization and to induce cell death through a mechanism independent of contact with trophozoites.

**Keywords:** Acanthamoeba, proteolysis, keratitis.

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18. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Linda Christian Carrijo Carvalho**

**Service: (CO) CORNEA AND EXTERNAL DISEASE**

**CEP Number: 559063**

5. ABSTRACT (REQUIRED):

**Title:** Translational and reverse translational research supporting precision medicine: Acanthamoeba keratitis as a model of linkage between clinical and basic research focused on personalized ophthalmology

**Author and Co-authors:** Carrijo-Carvalho LC, Carvalho FRS, Freitas D

**Purpose:** Advances in omics technologies contribute to the linkage between basic and applied sciences focusing on the improvement of human health. The aim of this study was to characterize a full and integrative cycle between three areas of investigation applied to ophthalmology and visual sciences, in the post-genomic era: translational research (TR), reverse translational research (RTR) and precision medicine (PM).

**Methods:** Analysis of the three main aspects of cyclic interaction constituted by the two-way approaches between bench top and bedside, with main focus on the application of precision ophthalmology to provide knowledge about human diseases. Acanthamoeba keratitis was chosen as a model disease, due to its complexity in diagnosis and the lack of treatment standardization.

**Results:** TR, defined as scientific research conducted in order to apply discoveries from basic sciences for developing new applications to improve patient?s welfare, provided as the main benefits: safely effective therapeutic agents, rapid, specific and sensitive diagnostic methods. In this context, pathogen virulence and resistance profile was identified as the main issue. RTR, which ensures the feedback ?from bedside to bench? provided identification of specific subjects that demand laboratory investigation and inferences between laboratory findings and clinical observations. The genetic profile and therapeutic response were the main factors associated to host response related to RTR. PM was associated to an accurate diagnosis followed by a personalized therapy. As a result, minimization of side effects and maximization of therapeutic efficacy can improve clinical outcome.

**Conclusion:** Management of knowledge concerning the application of molecular biology, biochemistry and cellular technologies can offer personalized application of basic sciences? tools within the subspecialty of external ocular diseases. Recognizing differential profiles of host resistance and pathogen virulence through the available technologies may render benefits for the practice of personalized medicine applied to the corneal surface.

**Keywords:** Translational science; diagnostic precision; personalized medicine; Acanthamoeba keratitis; omics

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Review the Scientific Section Descriptions. Select and enter the two-letter Code for the one (1) Section best suited to review your abstract.

**(CO) CORNEA AND EXTERNAL DISEASE**

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**Title**
**Author, Co-authors (maximum 6), Purpose, Methods, Results, Conclusion.**

Poster guidelines:

19. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Priscila Cardoso Cristovam**

**Service: (CO) CORNEA AND EXTERNAL DISEASE**

**CEP Number: 5567**

5. ABSTRACT (REQUIRED):


**Title:** "Comparative Study of Different Stem Cells Sources for Ocular Surface Reconstruction in Animal Model of Limbal Stem Cell Deficiency (LSCD)"

**Author and Co-authors:** Priscila Cardoso Cristovam, Alex Martins Nasare, Renata Ruoco Loureiro, Babyla Geraldes Monteiro, Joyce Luciana Covre, Jose Alvaro Pereira Gomes.

**Purpose:** Expression profile comparison of limbal, conjunctival and oral mucosa epithelial stem cells and their potential for ocular surface reconstruction.

**Methods:** Biopsies of human limbus, conjunctival and oral mucosa were obtained and cultivated on desepithelized amniotic membrane in specific culture media. After cultures confluence, the expression profile of limbal, conjuctival and oral mucosa stem cells were analyzed and characterized by RT-PCR and immunocitochemistry using epithelium and stem cells markers. These human cells were used to ocular surface reconstruction in animal model of limbal stem cell deficiency, to define the best strategy to be used for the treatment of bilateral limbal stem cell deficiency.

**Results:** PCR and immunocitochemistry results showed that oral mucosa present similarities with limbal stem cells, which expressed epithelium (CK3/12), limbal (p63, ABCG2) and mesenchymal (SH2, SH3 and SH4) stem cell markers. The conjunctival cells also expressed CK3/12, ABCG2, SH3 and SH4 but in lower intensity, and not expressed p63 and SH2. These human cells were used to ocular surface reconstruction in rabbit with limbal stem cell deficiency and, after the animal sacrifice, the eyes were removed and submitted to analysis.

**Conclusion:** We concluded that all of these cells present gene expression profile of stem cells, and suggest that they are strong candidates to be used in corneal epithelium reconstruction in cases of limbal stem cell deficiency. In the next step, we will study and compare the use of these cells for the treatment of limbal stem cell deficiency induced in rabbit eyes.



**Keywords:** stem cells, limbus, oral mucosa, conjuctival

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20. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Rossen Mihaylov Hazarbassanov**

**Service: (CO) CORNEA AND EXTERNAL DISEASE | (LA) LABORATORY**

**CEP Number: 0872/09**

5. ABSTRACT (REQUIRED):

**Title:** Topical immunomodulator use in the treatment of primary or secondary Sj?gren dry eye disease patients

**Author and Co-authors:** Rossen M. Hazarbassanov, Camila Yamasato, Danielle Miura, Jeison N. Barros, Jose Alvaro P. Gomes

**Purpose:** To determine the efficacy of an immunomodulating topical medication containing 0.05% ciclosporine A (CsA), compared to a castor-oil based topical lubricant, on the treatment of dry eye disease (DED) due to primary or secondary Sjogren?s syndrome

**Methods:** Clinical randomized, double-blind, efficacy and safety study. Thirty seven patients with previously diagnosed primary or secondary Sjogren?s syndrome (SS). Participants were randomized in two groups, the first was composed by 24 patients (100% female; mean age?SD: 55.00 ?7.42) who were treated with CsA 0.05% (Restasis?, Allergan Inc.), while the second included 18 patients (94,1% female; mean age?SD: 50.86 ?12.06) who were treated with castor-oil based topical lubricant (Refresh Endura?, Allergan, Inc.). Both eye drops were preservative free and applied 3 times a day for 3 months. All patients were submitted to the following tests, for DED diagnose and follow-up: Ocular Surface Disease Index (OSDI), patient symptomatology questionnaire, best spectacle corrected visual acuity (BSCVA), biomicroscopy, Schirmer 1 test without anesthesia, fluorescein break up time (FBUT), fluorescein and lissamine green staining and impression cytology (IC) of superior and temporal conjunctiva.

**Results:** CsA treatment improved OSDI and FBUT (Wilcoxon, $p<0.05$). Nonetheless, castor-oil treatment induced significant improvement in lissamine green conjunctival staining (Wilcoxon, $p<0.05$). IC total score in superior conjunctiva is significantly worse after 3 months treatment with castor-oil, but not CsA (Wilcoxon, $p<0.05$).

**Conclusion:** Topical 0.05% CsA was effective in regards to OSDI score reduction and FBUT improvement, while castor oil was capable of reducing conjunctival lissamine staining. However, cytology findings worsen for the castor oil group, but do not exhibit any change during CsA treatment. The data suggest that immunomodulatory CsA drops can be effectively prescribed for primary or secondary Sj?gren?s syndrome dry eye disease patients, on the other hand castor-oil eye drops should be further evaluated and used with caution for periods longer than 3 months.

**Keywords:** topical lubrificant and immunomodulator, impression cytology analysis, dysfunction tear syndrome, primary or secondary Sj?gren

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21. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Katiane Santin**

**Service: (LA) LABORATORY | NONE**

**CEP Number: 0138/12**

5. ABSTRACT (REQUIRED):

**Title:** Molecular identification and antimicrobial susceptibility profile of Viridans group Streptoccoccus isolated from endophthalmitis and keratitis.

**Author and Co-authors:** Santin, K; Bipo, PJM; Hofling, AL.

**Purpose:** The Viridans group Streptoccoccus (VGS) is a heterogeneous group of commensal organism. However they have been associated with infectious keratitis (KER) and are one the main emerging causative agents of acute endophthalmitis (END), primarily following intravitreal injections. This study aims to determine the species distributions and susceptibility antimicrobial profile of VGS isolated from END and KER.

**Methods:** 27 and 37 consecutive, non-duplicate isolates of VGS from END (2002-2013) and KER (2009-2013) respectively were recovered from patients treated at the Department of Ophthalmology UNIFESP/EPM. Biochemical tests used to differentiate ?-hemolytic streptococci were applied. Phenotypic species identification was assessed by commercial identification panels (Phoenix BD). Additional molecular identification was performed by sequencing the rpoB, sodA, tuf and 16S rDNA constitutive genes. Minimal inhibitory concentration for 19 antibiotics was determined using standard MIC plates (Sensititre Trek).

**Results:** The phenotypic tests were in agreement for all isolates and were able to differentiate VGS from S. pneumoniae. Molecular identification agreed with that of biochemical panels for 33 out of 60 isolates. END isolates showed 100% of susceptibility to vancomycin, to linezolid and to the cephalosporins while the isolates from KER showed 97.3% susceptibility to vancomycin and to linezolid, 89.2% to cefuroxime and 94.6% to cefotaxime, ceftriaxone and cefepime.
All isolates from END were susceptible to the fluoroquinolonas. Isolates from KER were 86.5% susceptible to levofloxacin and 97.3% to moxifloxacin.

**Conclusion:** Although the correlation between the phenotypic tests and the partial molecular identification found in this study, extensive investigation like MLSA (Multilocus Sequence Analysis) will be performed in order to determine accurately the common species causing ocular infections. Since the isolates were generally susceptible to antibiotics commonly used in ophthalmology including vancomycin, cephalosporins and fluoroquinolones the next challenge includes the investigation of virulence factors that may contribute to the severity of streptococcal ocular infections.

**Keywords:** Viridans group Streptococcus/endophthalmitis/keratitis/antimicrobial susceptibility profile

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22. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Rachel Lopes Rodrigues Gomes**

**Service: (PH) PHARMACOLOGY | NONE**

**CEP Number: 184.751**

5. ABSTRACT (REQUIRED):

**Title:** Aqueous humor concentration of fluorquinolones after topical instillation for ocular surgery prophylaxis

**Author and Co-authors:** 1.Rachel L. R. Gomes, Rodrigo Galvao Viana, Eunice Mayumi Suenaga, Luiz Alberto, Mauro Campos

**Purpose:** To compare aqueous humor concentration of the two fourth-generation fluoroquinolones, moxifloxacin 0.5% ophthalmic solution and gatifloxacin 0.3% solution, alone or combined with steroids.

**Methods:** Patients scheduled for routine phacoemulsification and intraocular lens implantation were selected to enroll the study in one of the following prophylaxis regime: no use of preoperative antibiotics (Group 1/ control); 4 times daily, the day before surgery plus 1 drop 1 hour before surgery one of the marketed available ophthalmic solution (Group 2: moxifloxacin 0,5% associated with dexametasone 0,1% in the same bottle, Group 3: moxifloxacin 0,5% alone); 4 times, 1 hour before surgery with a 15 minute interval (Group 4: moxifloxacin 0,5% associated with dexametasone 0,1% in the same bottle; Group 5: moxifloxacin 0,5% alone; Group 6: gatifloxacin 0,3% associated with prednisolone 1,0% in the same bottle; Group 7, gatifloxacin 0,3%). Approximately 0.150 ml of aqueous humor was obtained immediately before paracentesis and transferred to a propylene recipient. The concentration of moxifloxacin or gatifloxacin was measured by a validated procedure using high performance liquid-spectrometr

**Results:** A total of 245 samples were analized. The mean aqueous humor concentration of moxifloxacin was 986.6 ng/dl (522.9-1816.8) in the group 2; 741.3 ng/dl (373.5-1056.0) in the group 3; 1280.8 ng/dl (751.1-1743.1) in the group 4; 1644.3 ng/dl (1043.1-2289.9) in the group 5; 433.7 ng/dl (289.4-649.8) in the group 6; 308.1 ng/dl (205.1-495.3) in the group 7.

**Conclusion:** The use of vigamox 1 hour before surgery presented higher aqueous humor concentration than the others ophthalmic solutions and regimes. The presence of steroids in the solution seems to reduce the antibiotic aqueous humor concentration.

**Keywords:** Endophthalmithis prophylaxis, antibiotic prophylaxis, fourth generation fluorquinolones, cataract surgery

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**Title**
**Author, Co-authors (maximum 6), Purpose, Methods, Results, Conclusion.**

23. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Carlos Gustavo Bonfadini Rocha**

**Service: (CO) CORNEA AND EXTERNAL DISEASE | (RS) REFRACTIVE SURGERY**

**CEP Number: 14015013.5.0000.5505**

5. ABSTRACT (REQUIRED):

**Title:** Optimization of Intraocular Lens Constant Improves Refractive Outcomes in Combined Endothelial Keratoplasty and Cataract Surgery.

**Author and Co-authors:** Gustavo Bonfadini, MD; John G. Ladas, MD, PhD;Beatriz Mu?oz, MS; Albert S. Jun MD, PhD; Mauro Campos, MD.

**Purpose:** In the current study, we sought to characterize the error in patients undergoing DSAEK triple procedure by comparing the theoretical biometry prediction error using the manufacturer?s IOL constant with the results that would have been achieved with an optimized IOL constant and propose a method to determine IOL power in patients undergoing DSAEK triple procedures.

**Methods:** The predicted post-operative refraction using the IOL power implanted was calculated for each eye using the third-generation formula (SRK/T) and the manufacturer?s IOL constant (119.4) for the Alcon 3-piece model MA50BM acrylic lenses (Alcon Laboratories). Using data from the deviation of the target refraction, a new optimized constant was calculated using the Holladay IOL Consultant software (version 1.0).
Prediction errors in diopters (D), were retrospectively calculated on consecutive thirty eyes of 22 patients with Fuchs endothelial dystrophy who underwent DSAEK triple procedure performed by a single surgeon (Albert Jun). The new optimized IOL constant was subsequently compared to the manufacturer?s IOL constant allowing evaluation and quantification of refractive benefits of optimization.

**Results:** Using these data the new optimized IOL constant in this cohort of patients was found to be (120.9).
Optimization of the A constant decreased the mean absolute error (MAE) from 1.09 ?0.63 D (range 0.12 to 2.41 D) to 0.61 ?0.4 D (range 0 to 1.58 D); (P =0.004).
Comparing the intended and final post-operative refractions calculated with the original manufacturer?s constant and the optimized constant 20% vs. 43% of all eyes were in the <0.5 D range and 50% vs. 83 % of all eyes were in the <1.0 D range of the target refraction.
Furthermore, optimization decreased the number of eyes that were greater than 1.0 D from the target refraction from 50% to 17%.

**Conclusion:** Optimization of IOL constant showed significantly improved accuracy of predicted post-operative refraction compared to the manufacturer?s IOL constant which may help improve the post-operative refractive outcomes in patients undergoing DSAEK triple procedure.

**Keywords:** DSAEK triple procedure; Endothelial keratoplasty; Corneal transplant.

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24. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Tatiana Moura B. Prazeres**

**Service: (CO) CORNEA AND EXTERNAL DISEASE | NONE**

**CEP Number: 400295030**

5. ABSTRACT (REQUIRED):

**Title:** Comparison of Descemet-on versus Descemet-off Deep Anterior Lamellar Keratoplasty in keratoconus patients: a prospective study

**Author and Co-authors:** Tatiana Prazeres, Rodrigo Muller, Tatiana Rayes, Flavio E. Hirai, Luciene B. de Sousa

**Purpose:** To compare visual outcomes of Descemet Membrane-on and off after deep anterior lamellar keratoplasty (DALK) using the big-bubble (BB) technique in keratoconus patients.

**Methods:** In this prospective trial, keratoconic eyes undergoing to DALK procedure with the BB technique were randomized into 2 groups: a donor cornea ? without DM (group 1; 29 eyes) or with DM (group 2; 30 eyes). The 2 groups were compared with respect to best-corrected visual acuity (BCVA), contrast sensitivity (CS) wearing Gas permeable (GP) contact lenses, and also endothelial cell count. Complications and adverse events were also reported.

**Results:** A total of 123 keratoconic eyes with DALK procedure indicated were enrolled. 64 patients were excluded because did not meet the inclusion criteria. The study groups were comparable in terms of demographic characteristics.
There were no statistically significance difference between the two groups regarding BCVA and CS using GP contacts lenses, as well as endothelial cell count in 3, 6, 12 months.
During the follow up period very few complications occurred and neither group had a predominance of adverse events in 3, 6, and 12, 24 months.

**Conclusion:** In conclusion, DALK performed using the BB technique for keratoconus with DM-on or -off have showed no significant differences regard visual outcomes and endothelial cell count.

**Keywords:** keratoconus, DALK, donor descemet membrane

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25. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Larissa Pereira Copini**

**Service: (BE) OCULAR BIOENGINEERING | (CO) CORNEA AND EXTERNAL DISEASE**

**CEP Number: 1755/07 and 512399**

5. ABSTRACT (REQUIRED):

**Title:** Corneal angiogenesis modulation by cysteine cathepsins: in vitro and in vivo studies

**Author and Co-authors:** Larissa P. Coppini, Eduardo B. Rodrigues, Michel E. Farah, Nilana M.T. Barros, Paulo Schor, Adriana K. Carmona

**Purpose:** Control of neovascularization is essential for maintainance of corneal transparence insuring a normal vison. Several molecules that particpate in the angiogenisis process control were identified in human cornea as endostatin (proteolysis product of collagen XVIII) and angiostatin (proteolysis product of plasminogen). Cathepsin V, which is highly expressed in human cornea, is able to hydrolyze human plasminogen releasing angiostatin fragments. This capability suggests an important role for this cysteine cathepsin in the maintenance of corneal avascularity. Here, we investigated in detail the expression profile of cathepsins B, L, S and V in human cornea and the influence of cysteine peptidases in angiogenesis modulation in vitro and in vivo.

**Methods:** For this purpose we used different methodological tools that included real time PCR, SDS-PAGE, western blotting analysis, catalytic activity determination, cellular assays and induction of corneal neovascularition in rabbit eyes.

**Results:** Human corneal enzymatic activity analyses demonstrated the presence of cysteine proteases that were capable of processing endogenous corneal plasminogen generating angiostatin-like fragments. A comparative real time analysis of cathepsins B, L, S and V expression demonstrated that cathepsin V presents the highest mRNA expression, followed by cathepsins L, B and S. However, cathepsin V protein depletion indicated that in non-pathological conditions this enzyme is not the major cysteine protease responsible for plasminogen degradation. In addition, the protein analysis by Western blotting showed that only cathepsins B and S were detected in active enzyme form. After cytotoxicity assays, the in vitro and in vivo angiogenesis analysis demonstrated that the treatment with the cysteine peptidase inhibitor E64 caused reduction in neovascularization.

**Conclusion:** Our results showed that human cornea cysteine proteases are critically involved in angiogenesis.

**Keywords:** Cysteine proteases, plasminogen, cornea, angiogenesis, cathepsins

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**Title**
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26. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Lauro Augusto De Oliveira**

**Service: (CO) CORNEA AND EXTERNAL DISEASE | (CO) CORNEA AND EXTERNAL DISEASE**

**CEP Number: 1179/07**

5. ABSTRACT (REQUIRED):

**Title:** Visual Rehabilitation with Boston Type I Keratoprosthesis in a Public Referral Cornea Center

**Author and Co-authors:** Lauro Augusto de Oliveira, Flavio E. Hirai, Fernanda P. Magalhaes, Luciene B. Sousa

**Purpose:** To report the experience of the Federal University of S?o Paulo, Brazil, in performing Boston keratoprosthesis Type 1 implantation in the developing world.

**Methods:** We analyzed 30 eyes of 30 patients who underwent Boston Type 1 keratoprosthesis surgery between 2008 and 2012 in a prospective interventional study. Preoperative, perioperative, and postoperative parameters were analyzed, including visual acuity (VA), keratoprosthesis stability, and postoperative complications.

**Results:** Preoperative diagnoses were failed grafts in 16 eyes (53.33%), chemical injury in 10 eyes (33.33%) and Stevens-Johnson syndrome in 4 eyes (13.33%). Also, 16 eyes (53.33%) had preoperative glaucoma. Preoperative best-corrected VA ranged from 20/400 to light perception. With an average follow-up of 32 months (range, 1?55), postoperative vision improved to >20/200 in 24 eyes (80%). Postoperative VA was statistically improved compared to the preoperative measurement during all postoperative follow-ups (up to 36 months). During the follow-up period (32 months), retention of the initial keratoprosthesis was 93.3%. The incidence of retroprosthetic membrane was 26.66%. Progression of glaucoma occurred in 7 of 16 eyes (43%). Three patients developed glaucoma after keratoprosthesis implantation. One eye developed infectious keratitis. Two eyes developed retinal detachment.

**Conclusion:** Performing Boston Type 1 keratoprosthesis in a developing country is a viable option after multiple keratoplasty failures and conditions with a poor prognosis for keratoplasty. Our experience appears similar to major reports in the field from investigators in developed countries. Adjustments to postoperative management must be considered according to the particular location.

**Keywords:** Cornea, Keratoprosthesis, artificial cornea

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27. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Gustavo Souza Moura**

**Service: (CO) CORNEA AND EXTERNAL DISEASE | (EP) EPIDEMIOLOGY**

**CEP Number: 672479**

5. ABSTRACT (REQUIRED):

**Title:** Study of tear inflammatory mediators in patients with Keratoconus

**Author and Co-authors:** Gustavo Souza Moura; Lauro Augusto de Oliveira; Luciene Barbosa Sousa

**Purpose:** Keratoconus is defined as a non-inflammatory disease of the cornea, however inflammatory molecules such as interleukin (IL) and TNF levels are increased in keratoconic cornea and tear of these patients. This study aims to associate the levels of inflammatory molecules to keratometric patterns of patients with keratoconus

**Methods:** The acquisition of tears will be performed after stimulation with conjunctival strip of paper filter ( Schirmer) and using a 10?L microcapillary tube ( Microcaps, Drummond Scientific Co., Broomall, PA). The samples will be deposited in silicone microtubes and stored at -80?C immediately after collection, to the analysis of proteins. The corneal topography will be performed in order to evaluate qualitatively and quantitatively the ectatic disease and attest, under topographic criteria, cases of the disease. It will be compared the collected tear cytokines and topographic values?. A sequential evaluation for 1 year and a half will be made in 3 month intervals. The results will be analyzed descriptively and inferentially. The results of continuous variables are expressed as means and standard deviations . The results of the categorical variables are expressed by their frequencies. An index of reliability of 95% ($p<0.05$) will be accepted

**Results:** This study aims to associate the levels of inflammatory molecules to Keratometric patterns of patients with keratoconus

**Conclusion:** The innovative factor of this study are attempting to characterize the immunological profile of the tear and study the possible implications of the findings of cytokines and proteases and whether they can be used to monitor disease progression, according with the corneal topography

**Keywords:** tear inflammatory mediators; Keratoconus

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28. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Luciana Frizon**

**Service: (CO) CORNEA AND EXTERNAL DISEASE**

**CEP Number: 20137313.8.0000.5505**

5. ABSTRACT (REQUIRED):

**Title:** EVALUATION OF CONJUNCTIVAL BACTERIAL FLORA IN PATIENTS WITH STEVENS-JOHNSON SYNDROME

**Author and Co-authors:** Luciana Frizon, Mar?lia C Ara?jo, Maria Cec?lia Zorat Yu, Tais Hitomi Wakamatsu, Ana Luisa H?fling-Lima, Jos? ?lvaro Pereira Gomes.

**Purpose:** To determine the conjunctival bacterial flora in patients with Stevens-Johnson syndrome (SJS).

**Methods:** A prospective study of the conjunctival bacterial flora was performed in 41 eyes of 22 patients with SJS. The information gathered included the patient?s sex and age, time of disease, cause of SJS, and treatments. Scrapings of the inferior conjunctival fornix were performed in both eyes. Fourteen days before scraping, the patients were asked to interrupt all topical medication and start using 0.5% non-preserved methylcellulose. The microbiological evaluation included microorganism identification and determination of antibiotic sensitivity.

**Results:** Of 22 patients (41 eyes), 14 (64%) were females and 8 (36%) were males. Mean age was 33.2 years and mean time of disease was 15.6 years. Visual acuity ranged from light perception to 20/25 (1.57 logMar). The treatment on most patients consisted of tear substitutes, topical antibiotic and contact lenses (CL). Bacterial identification was positive in 39 eyes (95%) and negative in 2 eyes (5%). Gram-positive cocci accounted for 55.5% of the microorganisms, while gram-positive bacilli and gram-negative bacilli made up 19% and 25.5%, respectively.
Half of the patients (54%) had multiple bacteria in their flora, and just one bacterial species was identified on the other half. Resistant bacteria were isolated in four eyes. The antibiotic sensitivities results for the Streptococcus group showed the lowest sensitivity and highest microbial resistance identified.

**Conclusion:** Patients with SJS have a diverse conjunctival flora including many pathogenic species.

**Keywords:** Conjunctival Flora; Microbial Sensitivity Tests; Stevens-Johnson Syndrome

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29. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Allan Cesar Da Luz Souza**

**Service: (RS) REFRACTIVE SURGERY | (CO) CORNEA AND EXTERNAL DISEASE**

**CEP Number: 2010/12**

5. ABSTRACT (REQUIRED):

**Title:** Enhanced Combined Tomography and Biomechanics data for distinguish Forme Fruste Keratoconus

**Author and Co-authors:** Allan Luz;Bernardo Lopes;Katie M. Hallahan;Paulo Schor;William J. Dupps Jr.; Renato Ambr?sio Jr.

**Purpose:** To evaluate the performance of Ocular Response Analyzer (ORA) investigator derived variables and Pentacam HR tomographic parameters in differentiating forme fruste Keratoconus (FFKC) from normal corneas. To assess a combined biomechanical and tomographic parameter to improve outcomes.

**Methods:** Seventy-six eyes of 76 unaffected patients and twenty-one eyes of 21 FFKC patients matched for age, thinnest point, central corneal thickness and maximum keratometry from Instituto de Olhos, Rio de Janeiro, Brazil. Fifteen variables were derived from exported ORA signals to characterize putative indicators of biomechanical behavior, also thirty-seven ORA waveform parameters were tested. Sixteen tomographic parameters from Pentacam HR were tested. Logistic regression was used to produce a combined biomechanical and tomography linear model. Differences between groups were assess by the Mann-Whitney test. The area under the receiver operating characteristics curve (AUC) were used to compare diagnostic performance.

**Results:** Twenty-three of seventy-seven parameters showed significant differences between the FFKC and control group (Mann-Whitney test, $p < 0.05$). Among the ORA waveform measurements, the best parameter were those related to the area under the first peak, p1area1 (AUROC, 0.717?0.065). Among the investigator ORA variables, a measure incorporating the pressure-deformation relationship of the entire response cycle was the best predictor (Hysteresis loop area (HLA), AUROC, 0.688?0.068). Among tomographic parameters BAD-D showed the highest predictive value (AUROC, 0.91?0.057). A combination of parameters showed the best result (AUROC, 0.953?0.024) outperforming individual parameters.

**Conclusion:** Tomographic and biomechanical parameters demonstrated the ability to differentiate forme fruste Keratoconus from normal eyes. A combination of both types of information further improved predictive value.

**Keywords:** Ocular biomechanics, Corneal Tomography, Keratoconus

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30. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Emanuela Cristina Ramos Gonçalves**

**Service: (BE) OCULAR BIOENGINEERING**

**CEP Number: 2,04919138e+016**

5. ABSTRACT (REQUIRED):

**Title:** Numerical Clusters: a novel method to measure near reading acuity and speed

**Author and Co-authors:** GON?ALVES, E. C. R.; SCHOR, P

**Purpose:** To develop a numerical chart of reading (NCREAD) and evaluate near vision reading acuity (NVRA), reading speed (RS) and critical print size (CPS) in comparison to the commercial available option Minnesota Reading Test (MNREAD)

**Methods:** NCREAD was designed using the Latex R software with 15 lines ranging from 0.32 M to 8.0 M. Viewed at 40 cm, the logarith of the minimum angle of resolution ranged from -0.1 to 1.3. In each line a 4 digit number was randomly generated (total of 60 numbers). NCREAD and MNREAD were tested in 20 volunteers with near binocular visual acuity varying from -0.1 to 0.0 logMAR and normal eye exam. NVRA, RS and CPS were evaluated. RS was analysed as characters per minute (CPM) and words per minute (WPM) aside from syllabes per minute (SPM). All attempts were recorded using a digital voice device to subsequent analysis under audacity software (R)

**Results:** Correlation betwen variables within charts presented Pearson correlation coefficient (P) ranging from 0.1852 to 0.5318, from 0.2218 to 0.6239 and from 0.2259 to 0.7096 for CPS, WPM and SPM respectivelly. Tighter correlation was observed in smaller print size. Voice analysis presented a qualitative pattern change towards longer pause periods along the decreasing of the print size

**Conclusion:** A new chart (NCREAD) and analysis method (speech rate in syllables, characters and letters per minute) for evaluating reading speed was developed using number clusters. The best correlation coefficient (P) when comparing NCREAD to MNREAD charts was observerd in characters per minute in smaller print size sentences

**Keywords:** 1.Chart of reading 2.Visual acuity 3.Reading speed 4.Cognition 5.New development

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31. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Marlon Ribeiro Da Silva**

**Service: (BE) OCULAR BIOENGINEERING | NONE**

**CEP Number: 05075-030**

5. ABSTRACT (REQUIRED):

**Title:** Culture and Technology: Literature and Development of Critical Analysis among Undergraduate Students of Technology in Healthcare Area at UNIFESP

**Author and Co-authors:** Marlon Ribeiro da Silva, Paulo Schor

**Purpose:** With the candent debate about humanistic formation in healthcare area at sight, this project has the objective of taking the discussion to the technological field, where the professional and undergraduate students responsible for the production of technological innovation in healthcare area are inserted. To this end, this project has the goal of proposing a humanistic education starting from the reading and discussion of literature classics at the Humanities Laboratory at EPM-UNIFESP, investigating, therefore, the potential of an aesthetic and reflexive experience with literature as a mean to foment the humanistic formation of technology professional in healthcare.

**Methods:** We'll adopt qualitative methods involving Participative Observation and Oral History of Life. This experiment will be realized among technology in healthcare undergraduate students at Universidade Federal de S?o Paulo.

**Results:** Research in progress

**Conclusion:** We expect humanistic formation to influence in the methodological perspective of development of healthcare technology centred in the human.

**Keywords:** Humanist Formation; Technology Innovation; Heathcare

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32. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Fabiano Cade Jorge**

**Service: (CO) CORNEA AND EXTERNAL DISEASE | (BE) OCULAR BIOENGINEERING**

**CEP Number: 196537-2**

5. ABSTRACT (REQUIRED):

**Title:** Automated radio-wave telemetry for intraocular pressure measurement

**Author and Co-authors:** Fabiano Cade, Eleftherios Paschalis, Samir Melki, Louis Pasquale, Claes Dohlman, Joseph Ciolino

**Purpose:** To present an autonomous intraocular pressure (IOP) measurement technique by using radio-wave telemetry and a motion sensor, in rabbits.

**Methods:** A wireless implantable transducer (WIT) was inserted into a rabbit eye after extracapsular clear lens extraction. Continuous measurements were made by using an autonomous wireless data system (AWDS) comprising of the WIT and an external antenna aided by a motion sensor providing IOP readings. The IOP baseline, and the lowering IOP effect of two different anti-glaucoma medications (latanoprost 0.005% and dorzolamide 2%) were recorded. Anti-glaucoma medication was administered for 14 days and its effect was compared to the baseline IOP.

**Results:** Latanoprost and dorzolamide caused significant reduction in IOP with latanoprost exhibiting 2 fold greater reduction compared to dorzolamide. Absolute IOP reduction was 1.3?3.54 and 0.62?2.2 mmHg for latanoprost and dorzolamide, respectively.

**Conclusion:** The AWDS are feasible and provide reproducible results. Animal glaucoma model, enhanced by telemetry IOP acquisition, may help optimizing translational research.

**Keywords:** intraocular pressure, pressure transducer, wireless.

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33. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Martina Navarro**

**Service: (BE) OCULAR BIOENGINEERING**

**CEP Number: 394.359**

5. ABSTRACT (REQUIRED):

**Title:** The use of visual information in sport: Can it be trained?

**Author and Co-authors:** Martina Navarro, Olival Cardoso do Lago, Geert Savelsbergh, Paulo Schor

**Purpose:** In sports the use of visual information is necessary in order to decide what motor action is more appropriate for the moment. Experienced athletes that know when and where to look can pick up important information and anticipate the opponents actions. On the other hand, novices often don't know where to look at to pick up such informations. Thus, would be possible to teach novices how to use the visual information and speed up the process in order to become an expert? A technique that may help, by maximizing the automaticity of the learning process, is the implicit learning strategy. The implicit, as opposed to explicit learning process, tries to short circuit the verbal and analytical systems preventing the use of working memory during learning. The advantages in adopting such strategy includes not only speed and efficiency in tracking the environment and acquiring visual information, but it also prevents performance decrements under pressure. The aim of the study was to improve the estimation of the direction of the ball during penalty kicks by changing the visual search behavior of goalkeeper.

**Methods:** Inexperienced goalkeepers divided into three groups moved a joystick in response to penalty kick situations presented on a large screen in a pre-test, training and post-test. The perceptual learning group practised with film clips that were edited to highlight relevant information in the run-up sequence of the shooter. The training group practised with the same film clips but without any highlights. A third group served as control and only performed the pre- and post-test.

**Results:** The results showed that the visual search behaviour of the perceptual training group changed significantly and improved the initiation of the joystick movement. This initiation coincided with the timing of the most important visual information and led to significant better performance than the other two groups (i.e. more penalties were stopped).

**Conclusion:** The present study showed that is possible to teach novices in a specific task how to use the visual information in order to improve their performance. Similar tasks that requires use of visual information and expertise such as physicians analyzing medical images or doing a surgery may also be benefited by perceptual training.

**Keywords:** perceptual training, expertise, skill acquisition

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Abstract should contain:

**Title**
**Author, Co-authors (maximum 6), Purpose, Methods, Results, Conclusion.**

Poster guidelines:

34. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Aline Lutz de Araujo**

**Service: (BE) OCULAR BIOENGINEERING**

**CEP Number: 786.225**

5. ABSTRACT (REQUIRED):

**Title:** Wavefront aberrometry as a tool for rigid gas permeable contact lens fitting in irregular corneas

**Author and Co-authors:** Aline Lutz de Araujo, Paulo Schor

**Purpose:** To evaluate higher order aberrations (HOA) in eyes with irregular corneal astigmatism without optical correction (total HOA) and during rigid gas permeable (RGP) contact lens wear (residual HOA); to simulate optical effects of varying RGP lens designs and parameters; and to establish the usefulness of routine aberrometry in irregular cornea contact lens fitting.

**Methods:** Subjects previously fitted with RGP contact lenses for irregular corneal astigmatism, that are 18 years old or more, will be enrolled for a cross-sectional study. If the same patient?s both eyes are eligible for the study, only one eye, randomly selected, will be included. Wavefront measurements will be taken with a Hartmann-Shack aberrometer (LRK 7800, Luxvision, USA) before and after insertion of the fitted RGP contact lenses for total and residual HOA, respectively. Additionally, visual acuity, contrast sensitivity, and corneal topometric data from Scheimpflug imaging (Pentacam, Oculus, Germany) will be recorded. Correlation between these variables and HOA will be calculated. Software-based studies will provide simulations of HOA profile changing according to RGP lenses designs and parameters variations.

**Results:** We are currently enrolling participants. There are no results so far.

**Conclusion:** We do not have data to draw conclusions so far.

**Keywords:** corneal wavefront aberration, contact lenses, astigmatism, corneal topography, contrast sensitivity

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**(RS) REFRACTIVE SURGERY**

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**Deadline: 10/2014**

FORMAT:

Abstract should contain:

**Title**
**Author, Co-authors (maximum 6), Purpose, Methods, Results, Conclusion.**

Poster guidelines:

35. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Bernardo Teixeira Lopes**

**Service: (RS) REFRACTIVE SURGERY**

**CEP Number: 250924**

5. ABSTRACT (REQUIRED):

**Title:** Horizontal thickness profile for Detecting Keratoconus

**Author and Co-authors:** Bernardo Lopes, Allan Luz, Marcella Salom?o, Isaac Ramos, Renato Ambr?sio Jr.

**Purpose:** To evaluate the ability of horizontal pachymetric profile data for distinguishing keratoconic from normal corneas, and to compare the accuracy of these indices with more complex tomographic indices.

**Methods:** In a retrospective study, 1 eye randomly selected from 225 patients with clinically detected bilateral keratoconus and from 335 patients with normal corneas were enrolled. All patients were examined by a fellowship trained corneal specialist (RA) and had Pentacam HR corneal tomography exams (Oculus, Wetzlar, Germany). Data from 6mm horizontal pachymetric profile passing through the apex was assessed. With this data were calculated the relative pachymetric increase on the horizontal axis (RPI-hp) from apex to periphery, thinnest point in horizontal meridian (TPh) and Thinnest to thickest point progression (TTprog). A stepwise logistic regression model was fitted combining this data. After normality check with Kolmogorov-smirnov test, difference between groups was assessed with Mann-Whitney test. For those statistically significant different, performance in distinguishing keratoconus from normal was assessed by ROC curves. Difference between the areas under the curve (AUC) was assessed b

**Results:** All indiceswere statistically different between the groups ($p<0.001$). The AUC of pachymetry at the apex and at the TP were 0.904 and 0.938, respectively. The tomographic index with highest AUC was BAD-D (0.997).
Regarding the horizontal profile, the AUC of TPh and TTprog were 0.915 and 0.927, respectively. The best performance was achieved with RPI-hp maximum (AUC 0.932 Sens.=84.4%, Spec. 92.5%). The logistic regression (LR) improved the performance (AUC 0.988 Sens.=94.2 %,Spec. 96.1%). Statistically significant difference was observed in performance between LR and the single point pachymetry at the apex and at the TP. And also between LR and BAD-D ($p<0.001$).

**Conclusion:** Horizontal thickness profile enables detecting keratoconus. While the more complex tomographic indices provide enhanced accuracy, such data as available on the PARK-1 and Corvis, may provide the basics for novel approaches. RPI-hp and the combination of horizontal profile elements had shown an improvement in detecting keratoconic corneas when compared to single point measurements.

**Keywords:** Keratoconus, diagnosis, Scheimpflug image

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36. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Adimara Da Candelária Renesto**

**Service: (RS) REFRACTIVE SURGERY**

**CEP Number: 87051**

5. ABSTRACT (REQUIRED):

**Title:** Botulinum Toxin Type A for Keratoconus

**Author and Co-authors:** Adimara da Candelaria Renesto;Teissy H. Osaki; Midori H. Osaki; Flavio Hirai; Mauro Campos.

**Purpose:** Associate the use of botulinum toxin type A for patients with keratoconus to demonstrate that tension eyelid plays an important role in disease progression.

**Methods:** Parallel randomized clinical trial. Forty keratoconic eyes were randomized for botulinum toxin group (BTX) or control group. In the BTX group, patients underwent subcutaneous injection of botulinum toxin type A into the orbicularis muscle . Outcome measures were measurement of the palpebral fissure (PF), uncorrected visual acuity (UCVA), best spectacle-corrected visual acuity (BSCVA), spherical equivalent refraction, manifest refraction, corneal topography, corneal pachymetry, tonometry, and aberrometer were evaluated at baseline, and at 3-, 6-,12-, and 18-month intervals.

**Results:** Mean (standard deviation [SD]) baseline PF in the control group and the BTX group were 9.74 (1.87) and 9.45 (1.47) millimeters (mm), respectively; 18-month mean (SD) PF in the control group and the BTX group were 10.00mm (1.49) and 9.62mm (1.73), respectively, with no statistically significant difference between groups (P=0.33). Mean (SD) baseline UCVA and BSCVA in the control group and the BTX group were 1.30 (0.79) and 0.63 (0.56), and 1.03 (0.54) and 0.60 (0.27), respectively; 18-month mean (SD) UCVA and BSCVA in the control group and the BTX group were 1.18 (0.80) and 0.52 (0.59), and 0.96 (0.54) and 0.45 (0.26), respectively, (P=0.51 and P=0.45). Mean (SD) baseline spherical equivalent (SE) refractions in the control group and the BTX group were -9.23 (6.03) and -8.97 (6.12) diopters (D), respectively; 18-month mean (SD) SE in the control group and the BTX group were -9.70D (6.20) and -8.66D (5.14), respectively, (P=0.58). There were no differences between groups postoperatively at 18 months for all 3 topographic parameters (Pentacam?/Oculyzer?), flattest-K1 (P>0.78), steepest-K2 (P>0.56), and average keratometry (mean power; P>0.84). Central and thinnest corneal thickness assessed by Pentacam? and Oculyzer? did not differ significantly between groups at 18 months (P?0.46). Intraocular pressure did not change significantly (P=0.32) between groups from baseline to 18-month follow-up.

**Conclusion:** The injection of botulinum toxin type A in patients with keratoconus did not change the tension eyelid 18 months follow-up.

**Keywords:** Keratoconus; Botulinum toxins; Therapeutic use.

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37. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Gustavo Ricci Malavazzi**

**Service: (CA) CATARACT**

**CEP Number: 09475113.2.0000.5505**

5. ABSTRACT (REQUIRED):

**Title:** Developing and implementing a teaching method of phacoemulsification surgery

**Author and Co-authors:** Gustavo Malavazzi, Eduardo Soriano, Walton Nose.

**Purpose:** To develop a method of education that can be reproduced when teaching phacoemulsification, based on the inverted sequence of the procedure steps.
Implement the method in the routine of a training group.

**Methods:** Record book of 20 surgeries developed. Each group were oriented in an inverted evolution of the procedure steps. The method was implemented and observed during the period of 2 years at Santa Casa de Sao Paulo department of Ophthalmology. Each second year resident had to complete the 20 surgeries by the method proposed and data was collected analyzing the number of complications presented.

**Results:** The total number of complications of the new method was approximately 2 times lower when compared with the previous method.

**Conclusion:** The implanted method was created.
The results showed significant reduction in the total number of complications when teaching residents
Lesser number of surgeries and faster learning process

**Keywords:** teaching, phacoemulsification, surgery

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38. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Benigno Vicente Santos Hercos**

**Service: (EP) EPIDEMIOLOGY**
**CEP Number: 256961**

5. ABSTRACT (REQUIRED):

**Title:** OPTHALMOLOGICAL SERVICE QUALITY OFFERED TO OUTPATIENTS OF PRIVATE HEALTHCARE SYSTEM

**Author and Co-authors:** DR. BENIGNO VICENTE SANTOS HERCOS.
PROF. DRA. ADRIANA BEREZOVSKY.

**Purpose:** To identify the perception of the ophthalmic service quality provided for outpatients of the private healthcare system as well as to detect which actions should be considered necessary and priority in order to improve its quality.

**Methods:** An observational prospective study was carried out in 99 outpatients of the private healthcare system which were submitted to ophthalmologic examinations in an eye care service in Belo Horizonte, Brazil. Individual interviews were carried out by giving the interviewees two structured questionnaires adapted from the modified SERVQUAL.

**Results:** The main age was 44.41 years old, with S.D. of 16.04 years old and 50.5% of them had higher education level. In general terms, it was detected that outpatients of private healthcare system are dissatisfied. Reliability was considered to be the most important dimension in the private healthcare system. There was a negative correlation statistically significant between reliability and its level of concern (r= -0.25, p= 0.014). Service and safety dimensions have also presented important quality deficit.

**Conclusion:** The institute is supposed to plan, carry out, evaluate and monitor actions which lead to a general improvement in the patient?s satisfaction regarding service quality and mainly reliability. Service quality identification and monitoring through periodic use of the SERVQUAL scale will give information to health service administration in order to detect, plan and monitor necessary and priority actions working as strategic key for the improvement of the private health service quality.

**Keywords:** Quality of Private Health care System; Marketing of health services; Ophthalmology; Quality indicators, health care; Ambulatory care, Questionnaires/utilization

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Poster guidelines:

39. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: João Marcello Fortes Furtado**

**Service: (EP) EPIDEMIOLOGY**

**CEP Number: 11830313.6.1001.5505**

5. ABSTRACT (REQUIRED):

**Title:** Prevalence of uncorrected presbyopia in middle-aged and older adults living in Parintins, Amazonas

**Author and Co-authors:** Furtado JM, Berezovsky A, Munoz S, Cohen JM, Belfort Jr. R, Salomão SR

**Purpose:** To estimate the prevalence of near vision impairment and uncorrected presbyopia in middle-aged and older adults in an urban census sector of Parintins, Brazil.

**Methods:** An urban census sector was opportunely chosen for its proximity to the eye clinic for ophthalmic evaluation. Subjects were enumerated through a door-to-door survey and those with ages 45 years and older were invited for ophthalmic examination. Uncorrected, presenting and best-corrected near visual acuity was measured in each eye at 40 cm using a logMAR near vision tumbling E chart. Additional lenses were tested for near in all subjects, followed by an ocular examination. Presbyopia was considered as the main cause of near vision impairment when uncorrected near vision was <20/40 improving to best-corrected near vision of >20/32.

**Results:** A total of 178 eligible persons in 136 households were enumerated, and 144 (80.9%) examined. The prevalence of uncorrected near visual acuity impairment (<20/40 in the better eye) was 88.1% (95% confidence interval [CI]: 82.7% - 93.5%), and 18.2% (95% CI: 11.8% - 24.6%) with best correction. Uncorrected near vision impairment was statistically independent of age, gender and educational level. Presbyopia as main cause of near vision impairment was found in 79.37% (95% IC: 72.2% - 86.5%) and it was reduced in those aged 70 years and older, when other ocular pathologies become more prevalent ($p<0.001$). The odds of having presbyopia as main cause of near vision impairment in subjects with superior educational level was 18 times greater than those having less than complete primary education ($p<0.001$). For those in need of near refractive correction 48% did not have the necessary spectacles and 9% were wearing inadequate correction.

**Conclusion:** In this population, the prevalence of near vision impairment in middle-aged and older adults was almost 90%,and most of it could be corrected with spectacles. Higher educational level was a risk factor for presbyopia in this population. The majority of those in need of near glasses were not wearing them, reinforcing the need of access to refractive services in that region.There is an ongoing population based study including urban and rural populations in the same city. The results will generate a more accurate estimate of the magnitude of the problem in a representative area of the Brazilian Amazon.

**Keywords:** presbyopia, epidemiological study, visual acuity

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40. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Sung Eun Song Watanabe**

**Service: (EP) EPIDEMIOLOGY**

**CEP Number: 214961**

5. ABSTRACT (REQUIRED):

**Title:** PREVALENCE AND OUTCOMES OF CATARACT SURGERY IN AN URBAN CENSUS SECTOR OF PARINTINS, BRAZILIAN AMAZON REGION

**Author and Co-authors:** Watanabe SES, Mu?oz S, Berezovsky A, Cohen MJ, Cohen JM, Salomão SR

**Purpose:** To investigate the prevalence and visual acuity outcomes of cataract surgery in older adults in an urban census sector of Parintins, Brazil.

**Methods:** An urban census sector was conveniently chosen for its proximity to the eye clinic for ophthalmic assessment. Subjects were enumerated through a door-to-door survey and those with ages 45 years and older were invited for ophthalmic assessment. Participants were queried as to the year and type of facility for previous cataract surgery. Surgical procedure and evidence of surgery complications were noted. Main outcome measures were presented and best-corrected vision, and the principal cause for eyes presenting with VA <20/40 was identified.

**Results:** A total of 178 eligible persons in 136 households were enumerated, and 144 (80.9%) were examined. The prevalence of cataract surgery was 19.44% (95% confidence interval [CI]: 13.3% - 26.9%). Among the 46 (16.0% - 95% CI ? 11.9% - 20.7%) operated eyes, 52.2% presented with VA >20/40, 4.4% with VA 20/40 to 20/63, 21.7% with VA <20/63 to 20/200 and 21.7% with VA <20/200. With best correction, the percentages were 60.9%, 2.2%, 19.6% and 17.4% respectively. Intraocular lenses were found in 89.1% of cataract-operated eyes; 71.7% appeared to have been operated by phacoemulsification. Uncorrected refractive error and corneal opacities were the main causes of vision impairment/blindness in operated eyes.

**Conclusion:** In a small urban census sector of the Brazilian Amazon region, the prevalence of cataract surgery was substantially higher when compared to other urban areas of Brazil. Cataract surgery campaigns implemented in the last 10 years in that area had provided access to this population in remote area of the Amazon. Uncorrected refractive errors and other causes of impairment were common in cataract-operated eyes. Emphasis on the quality of VA outcomes is needed.

**Keywords:** vision impairment, cataract surgery, surgery complications

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41. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Leonardo Martins Machado**

**Service: (RE) RETINA AND VITREOUS | NONE**

**CEP Number: 0197/10**

5. ABSTRACT (REQUIRED):

**Title:** SMALL GAUGE VITRECTOMY: PRE, INTRA AND POSTOPERATIVE IMPLICATIONS IN MACULAR SURGERY

**Author and Co-authors:** Leonardo Martins Machado, Octaviano Magalh?es Jr., Eduardo B. Rodrigues, Bruno Furlani, Michel Eid Farah, Maur?cio Maia

**Purpose:** To analyze different factors influencing and influenced by small gauge vitrectomy treatment of maculopathies in three different papers.

**Methods:** In the first study, the impact of air infusion of 20-, 23- and 25-gauge cannulas was measured and compared in an experimental setting. The second one was a retrospective case series in which the investigators analyzed preoperative exams and intraoperative membrane parameters that could be associated with postoperative prognosis in patients submitted to small gauge vitrectomy for ERM. The third study, which is being conducted, is a clinical trial that intends to compare the surgical performances and postoperative recovery of patients with certain maculopathies that undergo 20-, 23-, 25- or 27-gauge surgery, in a prospective and randomized fashion.

**Results:** Data from the first investigation showed that 20-gauge air infusion yielded higher jet force readings compared to 23- and 25-gauge cannulas, but, when analyzing impact pressure values (force divided by impact area), 20- and 23-gauge showed similar results and statistically higher readings than 25-gauge infusion cannulas. In the second study, patients with worse initial visual acuity showed higher postoperative visual gain; RPE alterations seen at FA and FAF did not imply a worse visual prognosis; also, no correlation between intraoperative parameters and final visual acuity was found, but a subset of patients showed thicker retinas at 3 and 12 months postoperative. The third study is in progress.

**Conclusion:** Small gauge vitrectomy is in increasing use, leading to new findings and challenges. Air jet infusion at high pressure settings may damage the retina irreversibly in 20-gauge surgeries and that may also be true, at least with the present experimental data, with 23-gauge infusion. ERM surgeries show good results overall and even alleged bad prognostic factors (like abnormal FAF and FA exams) may not imply a worse VA gain. From the third study, the authors expect to find significantly different results between the standard and smaller gauge instruments regarding patient postoperative comfort and surgical time.

**Keywords:** Small gauge vitrectomy, macular hole, epiretinal membrane, MIVS, air infusion, chromovitrectomy, internal limiting membrane peeling.

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42. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Luiz Roisman**

**Service: (RE) RETINA AND VITREOUS | (RE) RETINA AND VITREOUS**

**CEP Number: 1469/08**

5. ABSTRACT (REQUIRED):

**Title:** Micropulse Diode Laser Treatment for Chronic Central Serous Chorioretinopathy: A Randomized Pilot Trial

**Author and Co-authors:** Luiz Roisman, MD; Fernanda Pedreira Magalh?es, MD; Daniel Lavinsky, MD; Nilva Moraes, MD, PhD; Flavio E. Hirai, MD, PhD; Jose Augusto Cardillo, MD, PhD; Michel Eid Farah, MD, PhD

**Purpose:** To evaluate 810- nm subthreshold diode micropulse (SDM) laser in patients with chronic central serous chorioretinopathy (CSC).

**Methods:** Prospective, randomized, double-blind, sham-controlled pilot trial. Patients were randomized to SDM laser treatment (group 1) or sham procedure (group 2). Primary outcome measure was change in best corrected visual acuity (BCVA); secondary outcome was central macular thickness after 3 months. Laser treatment was performed along the detached area. At the 3-month visit, all patients were evaluated for re-treatment if they met re-treatment criteria.

**Results:** Fifteen patients were included in this study: five patients in the sham group and 10 in the treatment group. At 3 months, BCVA was significantly enhanced in the treatment group (P = .006) compared with the sham group (P = .498). All patients from the sham group needed treatment after 3 months. An improvement in central macular thickness and leakage on fluorescein angiography
was noted in all treated patients (in both groups).

**Conclusion:** In this limited-size, short-term exploratory study, SDM laser was effective in treating chronic CSC. There was no evidence of retinal damage induced by treatment.

**Keywords:** Micropulse Diode Laser, Central Serous Chorioretinopathy

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43. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Magno Antônio Ferreira**

**Service: (RE) RETINA AND VITREOUS | (EX) EXPERIMENTAL SURGERY**

**CEP Number: 0379/10**

5. ABSTRACT (REQUIRED):

**Title:** POSTERIOR HYALOID DETACHMENT AND INTERNAL LIMITING MEMBRANE PEELING USING 10 NATURAL VITAL DYES: EXPERIMENTAL STUDY IN POST-MORTEM EYE

**Author and Co-authors:** MAGNO ANTONIO FERREIRA, MD, RAQUEL EUSTAQUIO ALVES FERREIRA, MD, MICHEL EID FARAH, MD, PHD, AC?CIO ALVES SOUZA LIMA-FILHO, PHD, CRISTIANE SIQUEIRA PERIS, MAUR?CIO MAIA, MD, PHD

**Purpose:** To determine whether natural dyes facilitate posterior hyaloid detachment and retinal internal limiting membrane (ILM) peeling in human eyes.

**Methods:** Open sky-vitrectomy with posterior hyaloid and ILM removal was performed in 80 cadaveric eyes. The study was performed after sign consent of the family of the donors confirming the purposes of the donation of eyes for this specific research project. The study followed the ARVO guidelines for research in humans and the tenets of the Delaration of Helsink as well as the rules of the Ethics Committee of Federal University of Sao Paulo. Pomegranate, Haematoxylon campechianum, chlorophyll, cochineal, hibiscus, indigo, paprika, curcuma, old fustic, and grape were injected into the vitreous for hyaloid detachment and ILM removal. The dyes settled on the macula for 5 minutes and were removed by mechanical aspiration. Intraocular forceps were used for ILM peeling, confirmed by light microscopy.

**Results:** The dyes facilitated posterior vitreous detachment (PVD) and ILM peeling. Haematoxylon campechianum, cochineal, and old fustic facilitated creation of a PVD in all cases. Dye-assisted posterior hyaloid detachment was comparable to triamcinolone-assisted posterior hyaloid detachment performed previously in a comparative model. Cochineal (intense staining, 50% of eyes; moderate staining, 37.5%; poor staining, 12.5%) and chlorophyll (intense staining, 25%; moderate staining, 75%) shows the best capacity of ILM staining. Light microscopy confirmed ILM removal in all eyes.

**Conclusion:** Natural vital dyes stain the vitreous and ILM in human cadaveric eyes and may be useful during vitreoretinal surgery. Cochineal stained the vitreous and ILM best, following by chlorophyll for ILM and extract of Haematoxylon campechianum and old fustic for vitreous.

**Keywords:** Chromovitrectomy, natural dyes, posterior vitreous detachment, internal limiting membrane peeling

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44. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Rafael Ramos Caiado**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: 582162**

5. ABSTRACT (REQUIRED):

**Title:** Applicability Of The Dye Composed Of Anthocyanins Extracted From The Açai Fruit (Euterpe oleracea) In Chromovitrectomy.

**Author and Co-authors:** Rafael R. Caiado MD, Acacio Alves Lima Filho, Emmerson Badaro MD, Michel Eid Farah MD PhD, Cristiane C Peris, Eduardo B Rodrigues MD PhD, Mauricio Maia MD PhD

**Purpose:** This study will (1) Evaluate the functional and morphological aspects of the a?a? fruit dye injection in rabbit eyes; and (2) Evaluate the pigmentation capacity and safety of using this dye in chromovitrectomy surgery in humans.

**Methods:** This research will be divided in two parts: In first part, rabbits will be submitted to intravitreous (n=39) or subretinal (n=33) injection in the following dye concentrations: C1(n=12): 0.1mg/ml; C2 (n=12): 0.5mg/ml; C3 (n=12): 5 mg/ml. To test dye toxicity, animals will be submitted to fundoscopy, fluorescein angiography, electrophysiology and histology. In the study in humans, 25 experienced retina surgeons will operate 25 patients indicated for chromovitrectomy surgery. The dye concentration used will be defined in the pre-clinical phase of this study. After each surgery, the surgeons will be asked to answer a questionnaire about the dye visibility, tissue impregnation and overall impressions of using the tested dye. To test dye safety, patients will be submitted to follow-ups after 1, 7 and 30 days. Examinations will include: BCVA, tonometry, biomicroscopy, indirect ophthalmoscopy and OCT, Fundus photographs, fluorescein angiogram, and electrophysiology.

**Results:** Preliminary results are under evaluation

**Conclusion:** The hypothesis of this study is that a new vital dye, originated from a national fruit and that presents low toxicity, will be safe to use during chromovitrectomy in human eyes.

**Keywords:** Anthocyanins, chromovitrectomy, Açai

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45. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Renata Portella Nunes**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: 20080550**

5. ABSTRACT (REQUIRED):

**Title:** Spectral Domain Optical Coherence Tomography Measurements of Choroidal Thickness and Outer Retinal Disruption in Macular Telangiectasia Type 2

**Author and Co-authors:** Renata Portella Nunes, Mariana R Thorell, Carlos AA Garcia Filho, William Feuer, Philip Rosenfeld, Michel E Farah

**Purpose:** To evaluate subfoveal choroidal thickness (CT) and the extent of outer retinal disruption in patients with macular telangiectasia type 2 (MacTel2) compared with normal eyes.

**Methods:** Patients with the diagnosis of MacTel2 were enrolled in a prospective, observational, cohort study at the Bascom Palmer Eye Institute. All patients in the study and control groups underwent a complete ophthalmological exam, spectral domain optical coherence tomography (SDOCT) imaging, and axial length (AXL) measurements. En face SDOCT imaging was used to assess photoreceptor abnormalities. The outer retinal anatomy was visualized using a 200x200 raster scan and a 20 ?m thick slab encompassing the inner segment/outer segment (IS/OS) band. Two independent graders measured the IS/OS disruption and the subfoveal CT from all study eyes.

**Results:** A total of 62 eyes (62 patients) were included in the study group. The control group was comprised of 130 eyes of 130 normal individuals. Mean ages in the study and control groups were 63.4 (SD=9.9) and 52.0 (SD=18.5) years, respectively. Mean AXL was 22.8 (SD=0.9) for the MacTel2 group and 23.6 (SD=1.0) for the control group. The mean subfoveal CT was 324.4?m (SD=108.1) in the MacTel2 group and 293.2?m (SD=93.9) in the control group (p=0.058). After adjusting for age and AXL using analysis of covariance, eyes with MacTel2 had a mean CT measurement greater than normal control eyes by 41.3?m (p=0.007). There was no correlation between the visual acuity and CT in the study group. In the study group, 52 eyes were found to have IS/OS disruption. The mean area of IS/OS damage was 2.0mm2 (SD=1.4). There was a negative correlation between the ETDRS acuity and the area of IS/OS damage (p=0.009), but no statistically significant correlation was seen between the CT and the area of IS/OS damage.

**Conclusion:** Eyes with MacTel2 were found to have thicker CT measurements than control subjects. This observation suggests that MacTel2 has an effect on the vasculature in the choroid as well as the retina. However, the CT measurements do not appear to be correlated with the extent of IS/OS damage and disease progression.

**Keywords:** Macular Telangiectasia, Choroidal Thickness, IS/OS disruption

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46. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Bruno Diniz**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: 12018712.5.0000.5505**

5. ABSTRACT (REQUIRED):

**Title:** Subretinal implantation of retinal pigment epithelial cells derived from human embryonic stem cells: from bench to clinic

**Author and Co-authors:** Bruno Diniz, Rodrigo Brant, Ramiro Ribeiro, Mark Humayun, Rubens Belfort Jr, Mauricio Maia

**Purpose:** To evaluate efficacy, local and systemic toxicity, tumorigenicity and delivery of the hESC-RPE (human embryonic stem cell derived retinal pigment epithelium) as a polarized monolayer plated on a parylene membrane on preclinical studies and describe the protocol assessment of human patients receiving those cells on a phase I trial.

**Methods:** Athimic nude rats allowed assessment of survival and tumor formation of a xenograft implant in the subretinal space. The RCS rat, a naturally occurring model of retinal degeneration, was used to evaluate vision rescue. Surgical tools and procedures for delivery of cell implants into human subretinal space have been evaluated using Yucatan minipigs. A prospective human safety / phase I clinical study will be performed to establish the safety and tolerability of subretinal transplantation of hESC-RPE on parylene membranes in 5 patients with Stargardt?s macular dystrophy (age >18) and 10 non-exsudative age-related macular degeneration (age >55). Pre and postoperative ophthalmic examinations will include visual acuity, fluorescein angiography and optical coherence tomography. Transplanted patients will be followed up for 12 months.

**Results:** Implanted cells were immunopositive for the RPE65 and TRA-1-85. Cell survival and the presence of a monolayer of hESC-RPE were significantly higher in eyes that received parylene membranes with cells when compared to cell injection. Visual behavior, using optokinetic head tracking showed that RCS animals implanted with hESC-RPE performed significantly better than the sham and control groups. Vitrectomy and implantation of hESC-RPE on a parylene membrane was found to be surgically safe in pigs. Gross morphological and histological analysis of rats and pigs eyes revealed no evidence of tumor or ectopic tissue formation.

**Conclusion:** The present technique was found to be surgically safe and demonstrated cell survival and functionality in rats and pigs. We provide clinical evidence suggesting that hESC-RPE might be safely transplanted into human patients phase I trial.

**Keywords:** age-related macular degeneration, retinal pigment epithelium, human embryonic stem cells

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Poster guidelines:

47. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Silvana Maria Pereira Vianello**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: 36021-630**

5. ABSTRACT (REQUIRED):

**Title:** Analysis of Plasmin Activation by tPA in Human Vitreous

**Author and Co-authors:** Silvana Maria Pereira Vianello, Eduardo Rodrigues, Larissa Coppini, Eduardo Novais, Ana Carolina Garcia, Michel Eid Farah

**Purpose:** The use of autologous plasmin and recombinant microplasmin has been proven useful for treatment of pathological vitreoretinal adhesions. The aim of this study was investigate ?in vitro? plasmin activation by tPA incubated with human vitreous .

**Methods:** Ten samples of 10 ?L of human vitreous collected by vitrectomy were incubated with 2 IU of tissue plasminogen activator (tPA) in 200 ?L of PBS buffer (137 mM NaCl, 2.7 mM KCl, 2.3 mM NaHPO4, 1.4 mM NaH2PO4), pH 7.4 at 37 ? C for 30 minutes. Ten ?L of colorimetric substrate HD-Val-Leu-Lys-p-nitroanilide was added to the activated vitreous. Different concentrations of plasminogen (0, 2, 4, 6, 8 and 10 mg) also incubated with tPA (2UI) were used as positive control. The absorbance was analyzed after 2h and 24h at 405 nm in spectrofluorometer plate model Biotek Synergy H1 at 405 nm. Vitreous samples were analyzed from patients with vitreoretinal conditions like retinal detachment, diabetic retinopathy, vitreoretinal traction, uveitis and glaucoma. Vitreous fluid was obtained by vitrectomy at 5.000 cuts per minute and aspiration before infusion of BSS into the eye.

**Results:** All human vitreous samples presented a positive activation of endogenous plasmin. Active plasmin was observed in only 24 hours colorimetric reading. The ocular underlying disease did not affect plasmin activation.

**Conclusion:** The tPA seems to be a good alternative to be used considering the low cost and toxicity, because can activate pre-existing proteins (plasminogen) from patient vitreous in plasmin. Randomized comparative clinical studies are needed to evaluate the effects of the use of tPA isolated on the vitreoretinal interface and its possible side effects.

**Keywords:** vitreoretinal adhesion, plasmin, vitreous, plasminogen,tPA

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**Oncology and Pathology**

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48. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Rubens Belfort Mattos Neto**

**Service: Oncology and Pathology**

**CEP Number: 98539**

5. ABSTRACT (REQUIRED):

**Title:** Ocular oncology in the Amazon

**Author and Co-authors:** Sabrina Cohen, Rafaello Pasquinelli, Jacob Cohen, Rubens Belfort Jr

**Purpose:** To establish the first ocular oncology service in the northern region of Brazil and study the characteristics of tumors referred to the center.

**Methods:** The implementation included obtaining funds, training a local ophthalmologist and monthly visits to examine pre screened patients, treated in Manaus. Demographics including city where patient came from, age, sex, clinical and pathological diagnosis were included.

**Results:** In the first year we received 80 patients, 56% presented with malignant lesions confirmed by biopsy and pathology. The squamous carcinomas of the ocular surface was the most common malignant tumor accounting for 64% of ocular cancers. The second more common malignancies were conjunctiva melanoma and retinoblastomas, with 12% each. Other tumors included choroidal melanoma, Kaposi sarcoma and orbital lymphoma.

**Conclusion:** The number of patients increased monthly as awareness of the center increased. Malignant tumors were the most majority and they usually presented in advanced stage. Carcinoma of the ocular surface was the most common, and very few posterior tumors were diagnosed, probably because of the little access to an ophthalmologist in the north region. All retinoblastoma were diagnosed at advanced stage, with extra ocular disease.

**Keywords:** ocular, cancer, amazon

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49. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Eduardo Amorim Novais**

**Service: (RE) RETINA AND VITREOUS | (US) OCULAR ULTRASOUND**

**CEP Number: 51440**

5. ABSTRACT (REQUIRED):

**Title:** Correlation between Choroidal Thickness and Choroidal Blood Flow in Normal Subjects

**Author and Co-authors:** Eduardo amorim Novais, Emmerson Badaró, Norma Allemann, Maira Saad Avila Morales, Eduardo B. Rodrigues, Caio V. Regatieri and Rubens Belfort, Jr.

**Purpose:** To study the correlation between the choroidal thickness (CT) measured by spectral-domain optical coherence tomography (SD-OCT) and retrobulbar circulation measured by color Doppler flowmetry (CD) in normal subjects.

**Methods:** Healthy subjects underwent enhanced depth imaging SD-OCT and CD using a linear 6-18 MHz transducer. The maximal peak systolic velocity and resistance index (RI) were obtained for the ophthalmic artery (OA), short posterior ciliary artery (SPCA), and central retinal artery (CRA) and correlated with the subfoveal CT measured by SD-OCT.

**Results:** Twenty-seven eyes of 27 healthy patients were enrolled (mean age, 40.6 ? 12.4 years; range, 27-68 years). An inverse proportional relationship (P = 0.0496) was identified between the RI of the SPCA (mean, 0.6117 ? 0.07911) and the subfoveal CT (319.9 ? 83.79 ?m) but not between the RI and the OA (mean, 0.7019 ? 0.07317) or the CRA (mean, 0.68843 ? 0.08994).

**Conclusion:** Our results suggested that there is an inverse proportional relationship between the RI of the SPCA and the subfoveal CT. The data suggested a correlation between a decrease in the CT and increased RI in the retrobulbar arteries. Therefore, lower choroidal blood flow may explain the reduced CT in normal subjects.

**Keywords:** Choroidal thickness, Enhanced depth image, Optical coherence tomography, Doppler flowmetry

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50. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Emmerson Badaró Cardoso**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: 1388/10**

5. ABSTRACT (REQUIRED):

**Title:** Investigation of retinal biocomatibility and research on new dyes chromovitrectomy

**Author and Co-authors:** Emmerson Badaro, Eduardo Novais, Michel E Farah, Acacio Lima-Souza, Mauricio Maia, Eduardo Rodrigues

**Purpose:** To investigate the retinal biocompatibility of Acid Violet (AV) isolated and the combination of Brilliant Blue with deuterated water (BB+D2O) as vital dyes for chromovitrectomy.

**Methods:** An amount of 0.05ml of 0.25g/l (animals V1-V3) and 0.5g/l (animals V4-V6) of AV or 0.25g/L Brilliant Blue associated with 0.13ml/ml of Deuteruim oxide (6 animals) was injected intravitreally in the OD of rabbits eyes, while balanced salt solution (BSS) was applied in the OS for control. Clinical examination and histology with light microscopy (LM) were performed after 7 days. The electroretinographic (ERG) changes were assessed at baseline and 7 days.

**Results:** A total of 12 rabbits were included in the study. The histopathologic appearance of the retina, choroids, sclera, and optic nerve was within normal limits and without any signs of severe retinal necrosis or cystic degeneration. The nerve fiber layer, retinal pigment epithelium (RPE) and choriocapillaris appeared normal after 7 days in every group analyzed, and both the control and the study group showed vacuolization and edema only in sparse regions in the retina.
At a dose of 0.25 g/l or 0.50 g/l, AV caused no statistical alterations in ERG during the follow-up period. Median B-wave amplitude maximal response in OD baseline were in V1?V3 of 133?V (58.5?199) and in V4?V6 of 175?V (140?219) and follow-up in V1?V3 of 225.5?V (122?264) (p=0.1088) and V4?V6 of 210.5?V (194.6?220) (p=0.1088). In OS, baseline values were in V1?V3 of 139.5?V (72.5?202) and in V4?V6 of 183 ?V (141.5?213.5); while in follow-up they were in V1?V3 of 165.5?V (152.5?189) (p = 0.2850) and in V4?V6 of 175.0?V (172? 188.5) (p=1.000).
BB+D2O caused no considerable alterations in ERG during the follow-up period. Median B-wave amplitude maximal response in OD baseline were 184.25?V (162-192.5) and in follow up 168.5?V (144.5-263) (p=0.9165). In OS, baseline values were 164.25?V (145-195.5) and in follow-up 140.25?V (71-176.5) (p=0.1730)

**Conclusion:** AV and BB+D2O may be safe for the retina after intravitreous injection at concentrations used.

**Keywords:** acid violet, chromovitrectomy, brilliant blue, deuterated water

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51. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Thiago George Cabral Silva**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: 215.195**

5. ABSTRACT (REQUIRED):

**Title:** Mediators of Ocular Angiogenesis after Bevacizumab Intravitreal Injections in Patients with Age-Related Macular Degeneration

**Author and Co-authors:** Thiago Cabral, Caio Regatieri, Juliana Dreyfuss, Pedro Serracarbassa, Akyioshi Oshima, Rubens Belfort Jr

**Purpose:** To evaluate the concentration of nineteen angiogenic biomarkers in aqueous humor before and 1 and 2 months after intravitreal injections of Bevacizumab in eyes with age-related macular degeneration (AMD)

**Methods:** 23 eyes of patients with neovascular AMD were treated with three initial intravitreal injections of Bevacizumab (1,25mg/0,05mL) with an interval of 30 days. Aqueous humor samples were obtained by anterior chamber paracentesis before the intravitreal injections. The biomarkers were measured using an enzyme-linked immunometric assay. The central retina thickness (CRT) was measured by spectral-domain OCT

**Results:** VEGF-A, a major angiogenic factor was elevated in all patients before injection, and it ranged from 7,83 pg/mL to 150 pg/mL at the baseline. A significant decrease in the levels of VEGF A ($P<0.0001$) was observed in all time points after Bevacizumab intravitreal injection (1 and 2 months). At one month post treatment, it was observed the highest decrease of VEGF-A levels (130 ? 46,45 pg/mL to 12 ? 10 pg/mL) and it remained low at two months after injection. A significant improvement on CRT measured by OCT was observed after treatment (baseline 376 ? 158 ?m; 1 month 273 ? 73 ?m; 2 months 255 ? 66 ?m and 3 months 249 ? 60 ?m). Seven biomarkers (Angiopoetin-2, Endothelin-1, Folistatin, HB-EGF, HGF, IL8 and VEGF-C) had statistically significant increase in their levels during the treatment. On the other hand, the levels of eleven biomarkers (BMP-9, EGF, Endoglin, FGF-1, FGF-2, G-CSF, Leptin, PLGF, TIMP1, TIMP 2 and VEGF-D) do not showed significant changes during the treatment with Bevacizumab. Taking together, the results indicate that the improvement on the CRT is correlated with the reduction on VEGF-A levels

**Conclusion:** The decrease of VEGF-A concentration in the aqueous humor in eyes with neovascular AMD was observed after Bevacizumab intravitreal injections. Curiously, a significant increase in seven angiogenic biomarkers levels was observed. Therefore, the dysregulation of these angiogenic biomarkers levels might be potential targets for this neovascular disease

**Keywords:** Vascular Endothelial Growth Factor, Neovascularization, Bevacizumab (Avastin), Aqueous Humor and Age Macular Degeneration

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52. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Simone Ribeiro De Araújo Almeida**

**Service: Oncology and Pathology**

**CEP Number: CEP 1206/12**

5. ABSTRACT (REQUIRED):

**Title:** Cytology impression findings in normal conjunctiva submitted to interferon a2b and normal conjunctiva submitted to mitomycin C 0,02% in rabbits eyes. Comparative experimental study

**Author and Co-authors:** Almeida, SRA; Barros, JN; Lowen, MS; Junior, MA; Martins, MC; Burnier, M

**Purpose:** To describe the findings on IC taken from healthy conjunctiva after INFa2b and to compare it to the findings on IC taken from healthy conjunctiva submitted to mitomycin C 0,02%

**Methods:** Thirty (30) New Zeeland albine rabbits were divided into 6 groups and submitted to 4 different treatment regimens. The right eye got treatment and left eye was used as control eye. Group I received mitomycin C 0,02% for 14 days and control eyes received distillated water; Group II received INF a2bfor 14 days, Group III received INF a2b for 30 days and Group IV received INF a2b for 60 days. Groups II,III and IV received phosphate buffer ins control eye. Group V was treated with MMC 0,02% for 14 days and group VI, INFa2b for 14 days. Groups V and VI received nothing on control eye. IC was taken 3 days before start the drops from all rabbits, on day 16th from group I and II, on day 31th from groups I, II and III and on day 60th from all groups. IC findingsafter INFa2b were analyzed, described and compared to the findings of IC after MMC 0,02% and between treated eyes and control eyes.

**Results:** IC taken after INFa2b showed no alteration on cromatin; the most often abnormality was reduction of globet cells (50,8%) followed by intercellular adhesion (26,2%), abnormal race nucleous/cytoplasm (20%) and cellularity reduction (15,4%). Cytomegalia, inflammatory cells and keratinization were present in less than 5% of IC studied. IC taken on day 30th, after receiving 30 days of INFa2b showed more cellularity reduction than MMC 0,02% IC. The IC took on day 30th showed more reduction of globet cells than IC before treatment and on day 15thdespite drug used. The overall comparison showed no difference between IC after MMC and IC INFa2b.

**Conclusion:** Globet cells reduction was the most frequent abnormality seen on IC after INFa2b. INFa2b used for 30 days seams to lead to more cellularity reduction than MMC 0,02%. No other statistically significant difference was seen when compared IC after INFa2b to IC after MMC 0,02%.

**Keywords:** Impression Cytology, Conjunctiva, Interferon, Mytomicyn C

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53. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Cristiane Siqueira Peris**

**Service: (RE) RETINA AND VITREOUS | (PH) PHARMACOLOGY**

**CEP Number: 4216091213**

5. ABSTRACT (REQUIRED):

**Title:** Color variation assay of the anthocyanins from Açai Fruit (Euterpe oleracea): a potential new dye for vitreoretinal surgery

**Author and Co-authors:** Peris CS1, Badaro E, Ferreira MA, Lima-Filho AA, Maia A, Rodrigues EB, Farah ME, Maia M

**Purpose:** The goals of this study were to determine the potential for use of the natural anthocyanins from the a?ai fruit (Euterpe oleracea) during vitreoretinal surgery and the ideal physicochemical properties of the dye.

**Methods:** We evaluated the color variations of the dye at different pHs and osmolarities with or without the use of mordants as a potential new tool for internal limiting membrane peeling. The extracts of anthocyanin from the a?ai fruit were analyzed by spectrophotometry to determine the degree of color variations associated with various pHs and osmolarities. The experiments were conducted in test tubes filled with tryptophan soya media and Petri dishes prepared with agar media.

**Results:** We observed various shades of green, red, and purple in the extracts of the anthocyanin dye at different pHs and osmolarities. The assay to adjust the anthocyanin solution similar to the physiologic retinal environment (osmolarity, 300 mOsm; pH, 7.00) resulted in a shade of purple that may be useful to stain the intraocular microstructures during vitreoretinal surgery. The physicochemical property of the purple anthocyanin solutions from the a?ai fruit was observed at physiologic pH and osmolarity

**Conclusion:** Anthocyanins from the a?ai fruit may be useful to enhance visualization of the intraocular microstructures during vitreoretinal surgery

**Keywords:** Anthocyanins, Açaí Fruit, internal limiting membrane, vitreoretinal

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54. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Hélio Francisco Shiroma**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: 02117212.9.0000.5505**

5. ABSTRACT (REQUIRED):

**Title:** Comparative study between lidocaine gel 2% and 5% for ophthalmic procedures

**Author and Co-authors:** Helio Francisco Shiroma, Kleber Eidi Shimono, Michel Eid Farah, Astor Grumann Jr, Eduardo Buchele Rodrigues

**Purpose:** To compare the anesthetic efficacy of lidocaine gel 2% and 5% on the ocular surface in healthy subjects.

**Methods:** A prospective, randomized, double-blind study was carried out by spraying lidocaine gel, at a concentration of 2% or 5% in each eye, of a healthy reasearch group. Pain during instillation was compared and during the clamping of the conjunctiva, in the fifth and tenth minute after the application of the gel. The break-up time of the tear film (BUT) and the incidence of keratitis were measured according to the Oxford scale.

**Results:** Eighty eyes of 40 patients were evaluated. The groups were similar in gender, with a mean age of 48 ? 16.26 years. The pain caused by instillation was found to be higher in the group using lidocaine gel 5 % (p = 0.092). Pain recorded at conjunctival clamping was lower in lidocaine 5 % (p = 0.564) in both the fifth the tenth minute (p <0.001). The majority of patients (80 %) had no corneal conjunctival dyeing. They were classified in grades I (16.25 %) and II (3.75 %) by the Oxford scale. The break-up time of the tear film was longer in the group using lidocaine gel 2 % (20.35 ? 7.37 seconds) compared to lidocaine 5 % (19.75 ? 7.00 seconds).

**Conclusion:** Lidocaine gel 5 % showed an equal efficacy with longer lasting anesthetic effects in comparison to 2 %. There was no corneal toxicity at either concentrations.

**Keywords:** topical anesthesia, adverse effects, lidocaine gel, ophthalmology, conjunctival clamping.

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55. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: João Rafael De Oliveira Dias**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: 707034**

5. ABSTRACT (REQUIRED):

**Title:** Intravitreal Ziv-Aflibercept for the Treatment of Neovascular Age-Related Macular Degeneration

**Author and Co-authors:** João Rafael Dias, Camilla Oliveira Xavier, Eduardo Amorim Novais, Andre Maia, Michel Eid Farah, Eduardo Buchele Rodrigues

**Purpose:** To describe the results of four patients with refractory exudative age-related macular degeneration that received intravitreal injections of Ziv-Aflibercept

**Methods:** A series of cases was performed to evaluate the retinal safety of intravitreal Ziv-Aflibercept. Were included only patients with exudative age-related macular degeneration (AMD) refractory to bevacizumab. After approval by the Ethics Committee of the Federal University of S?o Paulo (IRB number 707.034) and patient?s signature of the informed consent form, the patients received an intravitreal injection of Ziv-Aflibercept (0.05 mL, 25 mg/mL, total 1.25 mg), under sterile conditions. At baseline all the patients were examined through a complete ophthalmological exam including ETDRS best-corrected visual acuity (BCVA), as well as color fundus image, fluorescein angiogram, optical coherence tomography (OCT), microperimetry and multifocal and full-field electroretinography (ERG). Each patient was required to return every 4 weeks for a complete ophthalmological exam, microperimetry and OCT. ERG was performed at baseline and one and three months after of the first injection.

**Results:** Following the encouraging results of our experimental study performed in rabbits and after IRB approval and evaluation of the proper safety parameters, our research group decided to perform intravitreal injections of Ziv-Aflibercept in patients with recalcitrant fluid despite many bevacizumab injections. At presentation, the our patients demonstrated cystic spaces in OCT, proteinaceous exudates with fibrin deposition, and subretinal fluid. A response was noticed after the initial injection in all the patients and a somewhat greater response was seen after the second injection. All of the patients experienced improvement in the BCVA and confocal microperimetry showed improvement in the fixation targets. ERG results are under analysis.

**Conclusion:** This series of cases showed that intravitreal Ziv-Aflibercept was safe to our patients retinas and could be a very cost-effective option for patients which refractory AMD. However, a phase I study is necessary to confirm the retinal safety and efficacy of intravitreal Ziv-Aflibercept.

**Keywords:** Ziv-Aflibercept, age-related macular degeneration

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56. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Oswaldo F. M. Brasil Do Amaral**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: 98.104**

5. ABSTRACT (REQUIRED):

**Title:** New Perspectives in Macular Hole Surgery: Innovative Surgical Techniques and Prognostic Classification for Current Practice

**Author and Co-authors:** Brasil OF, Badar? E, Navarro RM, Lima-Sousa AA, Farah ME, Maia M

**Purpose:** To determine prognostic factors, functional/anatomic success, and safety of sutureless vitreous base removal and internal limiting membrane (ILM) peeling to manage idiopathic macular holes (MHs) at 2 years follow-up.

**Methods:** Forty-six eyes with an idiopathic MH underwent pars plana vitrectomy, ILM peeling after Brilliant Blue 0.05 mg/ml staining, and gas tamponade. Patients remained facedown for 3 days postoperatively. Follow-up included measurement of best corrected visual acuity (BCVA) and optical coherence tomography (OCT) at 1 and 7 days and 1, 6, 12, and 24 months postoperatively. If the MHs had not closed anatomically by 1 month, another procedure was performed.

**Results:** Most (91.3%) eyes obtained anatomic closure after one surgery and 97.8% after another surgery. The median BCVA improved 0.3415 (range, 0.000-0.900) logarithm of the minimum angle of resolution. No late MH reopening occurred, no surgery-related or ocular dye-related complications developed. The BCVA was less likely to improve in MHs with longer symptomatic periods or larger internal diameters.

**Conclusion:** Phacovitrectomy combined with vitreous base removal and ILM peeling using Brilliant Blue 0.05% for idiopathic MHs was safe. A long symptom duration and larger inner MH diameter were associated with poorer BCVA. Larger prospective studies are necessary to confirm these preliminary findings.

**Keywords:** chromovitrectomy, Brilliant Blue, macular hole, phacovitrectomy, vital dyes, vitrectomy

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57. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Rodrigo A. Brant Fernandes**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: 12018712.5.0000.5505**

5. ABSTRACT (REQUIRED):

**Title:** An Innovative Surgical Technique for Subretinal Transplantation of Human Embryonic Stem Cell-derived Retinal Pigmented Epithelium (hESC-RPE) in Yucatan Mini Pigs: Preliminary Results

**Author and Co-authors:** Rodrigo A.B. Fernandes, MD, MBA 1,2; Mauricio Maia, MD, PhD 2; Bruno Diniz, MD 1,2;Ramiro Ribeiro, MD 1,2;, Mark S. Humayun, MD, PhD 1

**Purpose:** To determine whether the surgical implantation of a human embryonic stem cell-derived retinal pigmented epithelium (hESC-RPE) monolayer seeded onto a parylene film into the subretinal space of pigs is a safe procedure.

**Methods:** Ultrathin films made from parylene were seeded with hESC-RPE and surgically implanted into the subretinal space of eight female, 2 months old , Yucatan mini-Pigs. All subjects received oral cyclosporine during the entire follow up period. Three months after implantation, the pigs were sacrificed, and the eyes and organs were submitted to histological analysis. Adjacent sections were processed for immunohistochemical analysis using TRA-1-85 (human blood group antigen) and DAPI antibodies.

**Results:** The cell monolayer over the parylene scaffold was immunopositive for TRA-1-85 three months after surgical implantation and the human cells did not migrate off the parylene substrate. In one eye, there was a mild inflammatory reaction around the implant, but it was negative for human biomarkers. There was no evidence of intraocular tumor formation. Systemic organs did not show gross evidence of tumor formation.

**Conclusion:** The hESC-RPE cells survived for at least three months in this animal model. The surgical procedure and subretinal implantation of the substrate with cells was feasible and safe without migration off the substrate or the induction of tumors in the eyes and organs of the immunosuppressed animals.

**Keywords:** AMD, STEM CELLS, RPE

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**Deadline: 10/2014**

FORMAT:

Abstract should contain:

**Title**
**Author, Co-authors (maximum 6), Purpose, Methods, Results, Conclusion.**

Poster guidelines:

58. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Letícia Sant'Ana Cardoso da Silva**

**Service: (GL) GLAUCOMA**
**CEP Number: 08491712.0.0000.5505**

5. ABSTRACT (REQUIRED):

**Title:** STRUCTURAL AND FUNCTIONAL ASSESSMENT OF GLAUCOMATOUS PATIENTS WITH HIGH AND LOW-TENSION OPTIC DISC HEMORRHAGES: A COMPARATIVE STUDY

**Author and Co-authors:** Leticia S C Silva, MD; Flavio S Lopes, MD; Luis G Biteli, MD; Paula Alhadeff, MD; Tiago S Prata, MD, PhD. Department of Ophthalmology, Federal University of São Paulo, São Paulo, Brazil. Einhorn Clinical Research Center, New York Eye and Ear Infirmary, NY

**Purpose:** We sought to assess and compare structural and functional indices between glaucomatous patients with high (HTDH) and low-tension optic disc hemorrhages (LTDH).

**Methods:** In this prospective study, we enrolled consecutive glaucomatous patients examined between January 2013 and September 2014. Disc photographs of all patients were evaluated for the presence of DH by 2 glaucoma specialists. A DH was defined as a splinterlike or flame-shaped hemorrhage on or within the retinal nerve fiber layer or neuroretinal rim. If peripheral to the disc margin, the hemorrhage needed to be contiguous to the ?-zone parapapillary atrophy when this feature was present. In cases of disagreement, the impression of a third investigator was used for adjudication. Eyes with diabetic retinopathy, vascular occlusive disease, optic disc drusen, ocular trauma, recent history of posterior vitreous detachment, and with any ocular disease other than glaucoma were excluded. Patients were classified as HTDH if presenting with an intraocular pressure (IOP)?16 mmHg at the time of DH detection. Those with an IOP<16 mmHg were classified as LTDH (median split). Clinical and ocular data from

**Results:** In progress.

**Conclusion:** In progress.

**Keywords:** optic disc; hemorrhages; high-tension; low-tension; spectral domain; optical coherence tomography

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**Title**
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59. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Marcos Paulo Suehiro Dantas**

**Service: (GL) GLAUCOMA**

**CEP Number: 1427**

5. ABSTRACT (REQUIRED):

**Title:** Retinal Nerve Fiber Layer Evaluation in Demyelinating Diseases with Spectral-Domain Optical Coherence Tomography and Scanning Laser Polarimetry

**Author and Co-authors:** Marcos P. S. Dantas, Fabiana F. Gonçalves, Andre S. Camargo, Luiz Alberto S. Melo Jr., Enedina Maria L. Oliveira, Ivan M. Tavares

**Purpose:** To demonstrate whether retinal nerve fiber layer (RNFL) thickness measured by spectral-domain optical coherence tomography (SD-OCT) and scanning laser polarimetry (SLP) is a potential biomarker for demyelinating diseases (multiple sclerosis [MS] and neuromyelitis optica [NMO]).

**Methods:** Patients with MS and NMO diagnosed according to clinical and neuroimaging criteria were recruited from the Neurology Clinic of the Federal University of São Paulo. Data of healthy individuals from an ongoing study in the Glaucoma Clinic were used for comparisons.

Exclusion criteria:
Eyes with a recent clinical diagnosis of optic neuritis (less than six months);
Glaucoma;
Optic neuropathy (other than MS and NMO-related optic neuritis);
High ametropia (above +5 Diopter or less than -5 D of spherical equivalent);
Previous ocular or neurological trauma;
Other relevant retinal and/or optic nerve disease.

The participants underwent ophthalmological examination including visual acuity, refraction, tonometry, biomicroscopy, neuro-ophthalmic examination and fundoscopy. The examiners were masked to the patient?s neurologic diagnosis and the history of previous episode of optic neuritis.

The eyes had the parapapillary RNFL thickness measured by SD-OCT , using the Spectr

**Results:** In Progress

**Conclusion:** In Progress

**Keywords:** OCT, NMO, MS

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60. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Mikael Kwang Chul Chun**

**Service: (GL) GLAUCOMA**

**CEP Number: 0**

5. ABSTRACT (REQUIRED):

**Title:** Selective Laser Trabeculoplasty for Early Glaucoma Patients: Predictors of Short-Term Surgical Outcomes

**Author and Co-authors:** Mikael K. C. Chun, Flavio S Lopes, Luis G. Biteli, Tiago S. Prata

**Purpose:** To report surgical outcomes and to investigate preoperative factors associated with the magnitude of intraocular pressure (IOP) reduction following selective laser trabeculoplasty (SLT) in early open-angle glaucoma (OAG) patients

**Methods:** A prospective, interventional case series was carried out. Patients with early OAG glaucoma (inadequate IOP control requiring treatment) underwent SLT in one eye (one single laser session) performed by the same surgeon in a standardized fashion. Data collected included age, type of OAG, preoperative and postoperative IOP, gonioscopy appearance, surgical complications, and any subsequent related events. The IOP of the untreated fellow eye was used to adjust the magnitude of IOP change in the study eye. Post-treatment assessments were scheduled at week 1 and months 1, 2, and 3. Factors associated with percentage of IOP reduction are being investigated using multiple regression analysis.

**Results:** In progress

**Conclusion:** In progress

**Keywords:** intraocular pressure, laser, trabecular meshwork

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61. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Verena Ribeiro Juncal**

**Service: (GL) GLAUCOMA**

**CEP Number: under review**

5. ABSTRACT (REQUIRED):

**Title:** Risk factors associated with initial parafoveal scotoma in glaucoma patients with disc hemorrhage

**Author and Co-authors:** Verena Juncal, Flávio Lopes, Tiago Prata

**Purpose:** To evaluate which risk factors are associated with the development of an initial parafoveal scotoma in glaucoma patients with disc hemorrhages.

**Methods:** This is a retrospective study that included the records of all patients with the diagnosis of glaucoma detected with a disc hemorrhage followed from July 2012 to August 2014 at the following glaucoma referral services: Department of Ophthalmology of the Federal University of São Paulo, Hospital Medicina dos Olhos and New York Eye and Ear Infirmary. Exclusion criteria included inability to perform reliable perimetry and the existence of systemic or ocular diseases known to affect the VF. The initial visit consisted of a complete ophthalmological examination including a standard achromatic perimetry. Patients had routine visits to the clinic and, when disc hemorrhages were detected, an optic coherence tomography was obtained to analyze the retinal nerve fiber layer and ganglion cell complex measurements, tonometry was repeated, an optic disc stereophotograph was obtained and the closest 24-2 perimetry to the event was evaluated. Visual fields were classified whether presenting or not wi

**Results:** in progress

**Conclusion:** in progress

**Keywords:** glaucoma, disc hemorrhage, initial parafoveal scotoma

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62. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Marina Paes Leme Mothé Neder**

**Service: (CO) CORNEA AND EXTERNAL DISEASE**

**CEP Number: 4037002**

5. ABSTRACT (REQUIRED):

**Title:** Ochronosis - Case report

**Author and Co-authors:** Marina Neder, Charles Faria

**Purpose:** Case report

**Methods:** Ochronosis - Case report
Abstract: The present study is about a case report of a 69 years old male patient who came in our emergency room complaining about white spots in his sight in both eyes. His symptoms started 2 months ago and there were no other symptoms associated. In his past medical history the patient reported a diagnosis of ochronosis diagnosed in other service in 1998 osteoarthrosis in both knees, according to him, due to ochronosis, hypertension and diabetes. In the exam his visual acuity was 20/20 in both eyes with correction, his anterior biomcroscopy showed signs of ocular ochronosis. At the moment we're expecting results of ancillary exams and glasses were prescribed. We chose to report this case, first, because ocular findings may be the first manifestation of the desease and to discuss management of a desease that can put sight at risk.

**Results:** In progress

**Conclusion:** In progress

**Keywords:** Ochronosis

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63. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Renata Tiemi Kato**

**Service: (CO) CORNEA AND EXTERNAL DISEASE | (EP) EPIDEMIOLOGY**

**CEP Number: 1699/11**

5. ABSTRACT (REQUIRED):

**Title:** he Use of Scleral Tissue in the Hospital São Paulo Eye Bank UNIFESP/EPM

**Author and Co-authors:** Kato RT, Bogar A, Rossi LVB, Galluzzi C, Adan CBD, Hirai FE, Sato EH

**Purpose:** To evaluate the main uses of scleral tissue distributed by the Hospital S?o Paulo Eye Bank from 2006 to 2013.

**Methods:** Data were obtained from records of recipients of scleral tissue from the Hospital S?o Paulo Eye Bank from February 2006 to December 2013. Information such as age and gender of recipients, the size of sclera used (whole, half or quarter), type of surgery in which the sclera was used and institution involved were collected.

**Results:** During the study period, 1580 surgical procedures were performed using scleral tissue coming from donors of the Hospital S?o Paulo Eye Bank. There were 786 (49.75%) male and 794 (50.25%) female. Surgeries performed included glaucoma surgeries 705 (44.6%), prosthesis implants 530 (33.5%), scleral patches 231 (14.6%) and others 67 (4.2%). The whole sclera was used in 615 (39.6%) surgeries, half sclera in 696 (44.9%) and quarter sclera in 182 (11.7%). Institutions that have requested the sclera were divided into tertiary services (UNIFESP, USP and FMABC) and private services or other hospitals. Tertiary services requested 798 (50.5%) scleras, whereas other services 644 (40.8%).

**Conclusion:** The main use of sclera in the Eye Bank of Hospital S?o Paulo UNIFESP/EPM was for glaucoma surgery and prosthesis implants. Results from this study justify the maintenance of the enucleation technique used when harvesting donated corneas. Moreover, there is a lack of publications related to the theme. This analysis can provide data for new studies, directing and optimizing the use of sclera.

**Keywords:** eye bank, sclera, transplantation, ocular surgery

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64. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Fábio Iglesias Marujo**

**Service: (CO) CORNEA AND EXTERNAL DISEASE | (EP) EPIDEMIOLOGY**

**CEP Number: 1852/10**

5. ABSTRACT (REQUIRED):

**Title:** ETIOLOGICAL AGENTS OF MICROBIAL KERATITIS IN A REFERENCE HOSPITAL IN BRAZIL

**Author and Co-authors:** Marujo FI; Hirai FE; Yu MCZ; Lima ALH; Freitas D; Sato EH

**Purpose:** to analyze the results obtained from the Unifesp Ocular Microbiology Lab to determine the most frequent etiology of microbial keratitis.

**Methods:** Retrospective study, analyzing the culture results from patients with clinically suspected microbial keratitis from 2005 to 2009 in the Ocular Microbiology Lab Ophthalmology Dept. Federal University of São Paulo.

**Results:** 2049 clinically suspected microbial keratitis were analyzed, 1468 (71.6%) of which presented positive cultures for at least one infectious agent. The mean age was 45 years old and 45% were female. Most cases were bacterial (80.3%). Fungi were responsible for 7.0% and Acanthamoeba for 5.9%. Among the bacteria, the most frequent pathogen was Staphylococcus (52%), especially the coagulase-negative (42%). The second and third most common were Corynebacterium (14%) and Streptococcus (10%), respectively There were more filamentous fungi (78%), with Fusarium as the most common (59%), than leveduriform (2%), 94% of which were Candida.

**Conclusion:** Our data is similar to other studies around the world, with bacteria as the leading agent of microbial keratitis, especially Staphylococcus. Fusarium was the most commonly found fungus.

**Keywords:** keratitis, microbiology, bacteria, epidemiology, microbial

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**Title**
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Poster guidelines:

65. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Marina Roizenblatt**

**Service: (CO) CORNEA AND EXTERNAL DISEASE | (LA) LABORATORY**

**CEP Number: 559063**

5. ABSTRACT (REQUIRED):

**Title:** Clinical approach of translational medicine applied to Acanthamoeba keratitis.

**Author and Co-authors:** Marina Roizenblatt, Mayra Barra, Annete Foronda, Linda Carrijo-Carvalho, Fábio Carvalho, Denise de Freitas.

**Purpose:** Acanthamoeba keratitis (AK) is a sight-threatening eye infection for which early diagnosis is critical for a better prognosis. However, a nonspecific presentation and the medical history common to other microbial keratitis may hinder the specific diagnosis and early therapy. For these reasons, the aims of this survey were to determine the main clinical clues of AK infection and to investigate the differential pattern of symptoms among the microbial keratitis in order provide an earlier and more specific diagnosis in the clinical practice.

**Methods:** History and clinical symptoms were assessed by a retrospective analysis of patients from 2010 to 2013. Clinical diagnosis was corroborated by laboratorial sciences about the occurrence of the protozoan on cultured corneal tissues. Clinical symptoms of AK were characterized and compared with symptoms from non-AK cases looking for a predictive clinical marker of the disease. Statistical significance was accepted at the $p<0.05$ level.

**Results:** Thirty-one patients were presented to laboratorial investigation at the Laboratory of Ocular Protozoology (LAPRO). Sixteen patients had confirmed AK by clinical and laboratorial diagnoses. In comparison with patients with microbial keratitis other than AK, the clinical symptoms of AK patients showed the main percentual differences as follows: hyperemia ($p=0.003$), pain ($p=0.008$), ardor ($p=0.008$), photophobia ($p=0.023$), tearing ($p=0.008$), low visual acuity ($p=0.008$). Previous treatment of the current keratitis was reported by 81.3% of AK patients in comparison to patients with microbial keratitis non-AK ($p=0.001$). We observed that 62.5% of AK cases analysed were associated with secondary bacterial or fungal infection.

**Conclusion:** The occurrence of AK in our referral eye care center has maintained the tendency of increasing. Guided by symptoms and history of disease?s progress, clinical diagnosis of AK could be predicted by the presence of hyperemia, pain, ardor, photophobia, tearing, low visual acuity and previous treatment of the current keratitis. The therapeutic process of AK may be hampered by the occurrence of a secondary infection, requiring greater clinical diagnostic accuracy and early establishment of the most appropriate treatment.

**Keywords:** Acanthamoeba, keratitis.

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Poster guidelines:

66. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Nathalia Mayumi Thomaz de Aquino**

**Service: (CO) CORNEA AND EXTERNAL DISEASE**

**CEP Number: 20512013.6.0000.5505**

5. ABSTRACT (REQUIRED):

**Title:** Risk factor for primary corneal graft failure: a case-control study

**Author and Co-authors:** Nathalia M. T. Aquino, Consuelo B. D. Adan, Elcio H. Sato, Flavio E. Hirai

**Purpose:** to determine risk factors for primary corneal graft failure in the State of São Paulo, Brazil.

**Methods:** This was a case-control study. Cases were defined as patients with primary corneal graft failure reported to the State of S?o Paulo Corneal Transplantation Center between 2010 and 2013. Information about the case donor was collected. Controls were randomly selected in a 4:1 ratio among those who donated corneas at the same day of the case or within a 1 week interval. Data such as age, gender, time-to-enucleation, time-to-preservation, and cause of death were collected. Comparisons between cases and controls were done with Student?s t test and chi-squared test. Logistic regression was performed for multivariable analysis.

**Results:** Thirty eight cases were reported during the study period and 152 controls were selected. Mean (sd) age among cases and controls 46.1 (16.5) vs. 39.8 (16.5), respectively (p=0.037) and there were more males in both groups (60.5% for cases and 66.4% for controls, p=0.493). Cardiovascular disease was the main cause of death for both groups (49.3% vs. 50.0%, for cases and controls). Mean time-to-enucleation was 4.6 (3.7) for cases and 3.5 (5.8) for controls, p=0.255. Mean time-to-preservation was 5.7 (3.5) for cases and 4.6 (5.1) for controls, p=0.238. Those who died by other causes of death had 7 times higher odds to have primary graft failure than those who died of cardiovascular disease after adjusting for other variables (odds ratio 7.0 (2.3-20.8).

**Conclusion:** Factors such age, gender, time-to-enucleation and time-to-preservation were not risk factors for primary graft failure in this population. Causes of death other than cardiovascular or external causes were associated with higher odds of primary failure.

**Keywords:** Corneal transplantation/adverse effects; Eye banks; Corneal diseases; Tissue preservation

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Review the Scientific Section Descriptions. Select and enter the two-letter Code for the one (1) Section best suited to review your abstract.

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67. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Rafael Freire Kobayashi**

**Service: (CO) CORNEA AND EXTERNAL DISEASE | (RS) REFRACTIVE SURGERY**

**CEP Number: 804592**

5. ABSTRACT (REQUIRED):

**Title:** School children from Brazil and Bolivia: a comparison of keratometry and static refraction

**Author and Co-authors:** Rafael F. Kobayashi, Maria Flávia Ribeiro, Mariana P. Wisneski Flavio E. Hirai, Denise de Freitas, Renato Ambrosio

**Purpose:** To evaluate keratometric values and static subject refraction between school children from Brazil and from Bolivia

**Methods:** 351 eyes of Brazilian school children and 21 eyes of Bolivian school children were evaluated at the department of Ophtalmology of Paulista School of Medicine during the project Visão do Futuro in 2014. Examinations included static subjetive refraction, keratometry and astigmatism axis measured by the Pentacam Scheimpflug imaging system. Cylinder from the static refraction, equivalent sphere, mean keratometry and astigmatism axis were compared across groups with the nonparametric test of Mann-Whitney and p-values <0.05 were considered statistically significant.

**Results:** Mean age was 6,0 ?0,8 and 5,9?0,7 complete years (p=0,58) between Brazilian and Bolivian children, respectively. The proportion of boys was 49,1% in Brazilian and 71,4% in Bolivians. Equivalent sphere, mean keratometry and astigmatism axis were not statistically significant between groups (p>0,2). The median of cylinder in the Brazilian group was -1,0 diopters (D) with a range of -4,25D to 0,0D. The median of cylinder in the Bolivian group was -2,25D with a range of -4,0D to 0,0D (p=0,002).

**Conclusion:** Equivalent sphere, mean keratometry and astigmatism axis did not differ between groups. However, the median of cylinder in the Bolivian children was significantly higher than in Brazilian children.

**Keywords:** Pentacam children keratometry refraction

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68. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Marília Ikeda Serizawa**

**Service: (CO) CORNEA AND EXTERNAL DISEASE**

**CEP Number: 000**

5. ABSTRACT (REQUIRED):

**Title:** Indications for Corneal Transplantation at Universidade Federal de São Paulo.

**Author and Co-authors:** Maralia Ikeda Serizawa, Flávio Hirai, Elcio H. Sato

**Purpose:** To report the indications and techniques at Universidade Federal de S?o Paulo over a 7 months period.

**Methods:** A retrospective analysis was performed of medical records from patients who underwent corneal transplantation surgeries at Universidade Federal de São Paulo in São Paulo, Brazil, between January 2014 and September 2014.

**Results:** During this period of study, 242 eyes of 229 patients with mean age of 49.7 ? 22.5 years old underwent corneal transplantation. 71.90% were optical and 28.1% were tectonic. Leading indications were: keratoconus (26.86%), bullous keratopathy (23.97%), infectious keratitis (15.70%). Techniques of corneal transplantations included: penetrating keratoplasty (78.51%), corneal patch (8.26%), deep anterior lamellar keratoplasty (5.79%), descemet stripping endotelial keratoplasty (6.61%), descemet?s membrane endothelial keratoplasty (0,41%) and femtosecond-assisted anterior lamellar keratoplasty (0.41%).

**Conclusion:** In this study, keratoconus was the most common indication and penetrating keratoplasty was the most frequent technique of corneal transplantation.

**Keywords:** corneal transplantation, penetrating keratoplasty, lamellar keratoplasty.

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69. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Thiago Gonçalves dos Santos Martins**

**Service: (CO) CORNEA AND EXTERNAL DISEASE | (BE) OCULAR BIOENGINEERING**

**CEP Number: 0080\10**

5. ABSTRACT (REQUIRED):

**Title:** Evaluation of the behavior of fibroblast from the primary pterygium after a single mitomycin C subjconjunctival application

**Author and Co-authors:** Thiago Gonçalves dos Santos, Martins Fernando Betty, Cresta Milton Ruiz Alves, Ana Luiza Fontes de Azevedo Costa and Paulo Schor

**Purpose:** To evaluate the influence of a single preoperative subconjunctival application of mitomycin C 0.02% in the proliferative behavior of fibroblasts and fibrovascular tissue derived from primary pterygium, compared with the untreated primary pterygium, using immunohistochemical method in the tissue obtained in the surgery

**Methods:** Forty patients were randomly divided into two groups. One group (n = 20) was subjected to the injection of 0.02% MMC inside the body of the pterygium two weeks prior to surgery, and the control group (n = 20) only had the surgery. Both underwent the technique of pterygium excision with conjunctival transplantation with 10.0 nylon suture. Patients were followed up monthly for 8 months. We took into consideration recurrence, complication and the cell proliferation demonstrated with immunohistochemistry (Ki-67).

**Results:** No complication from the use of MMC was observed. There were 10 cases of recurrence in the control group (50%) and no recurrence in the group treated with MMC within the 8 months of follow up. There was one case of granulomatous reaction in the control group and 6 cases of hyposphagma in the group treated with preoperative injection of MMC

**Conclusion:** Knowing the behavior of fibroblasts from pterygium and their proliferative potential, opens new perspectives for understanding the mechanisms of action of drugs already used in their treatment as well as the possibility of using new compounds.
The preoperative use of MMC 0.02% for pterygium surgery represents a promising option in terms of efficacy and safety.

**Keywords:**

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70. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Alexandre Xavier da Costa**

**Service: (CO) CORNEA AND EXTERNAL DISEASE**

**CEP Number: 4305000**

5. ABSTRACT (REQUIRED):

**Title:** Drop volume of artificial tear solutions: pharmacoeconomic study

**Author and Co-authors:** COSTA, AX; GAMA, RM; KITADAI, SPS; GOMES, JAP

**Purpose:** To determine the mean drop volume produced by artificial tear solutions available in the Brazilian market in different inclination angles and to determine the mean cost of the treatment.

**Methods:** The densitometric method was used to determine the drop volume of 3 original bottles of the artificial tear solutions Artelac®, Hylo Comod®Lacrima® Plus, Systane® UL, Lacrifilm®, Hyabak®, Lacribell®, Ecofilm®, Mirugell®, Plenigell®, Fresh Tears®, Optive® and Endura®, at the inclination of 90o and 45o. The mean number of drops in each bottle was determined and a pharmacoeconomic evaluation of the drops was made.

**Results:** The drop volume ranged from 32.2 to 64.0 ?L at 45o and from 29.1 to 65.1 ?L at 90o. The difference between drops in each inclination varied from 2 to 24%. The annual cost was from R$2,73 to R$130,73 according to the inclination of the bottle. The Maximum Duration of Treatment (MDT) was from 29.3 to 51.4 days at 45o and from 28.8 to 48.4 days at 90o, being the difference in MDT from 0.5 to 8 more or less days depending on each brand. It was noted that a variation of over 10% in the number of drops in a bottle, according to the inclination of application, implies in a larger number of consumed bottles over one year.

**Conclusion:** the actual legislation of ANVISA (National Agency of Sanitary Vigilance) does not define regulations to the collyria drop volume, specifically. None of the collyria studied presented ideal drops for human eyes, leading to a waste of the product and higher cost for the manufacturer and the consumer. Moreover, manufacturers do not give proper orientation to the consumers over the correct inclination of the bottle.

**Keywords:** Ophthalmic solutions/administration & dosage; Ophthalmic solutions/economic; Medications instillation; Medications cost; Pharmacoeconomics; Volume of eye drop.

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71. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Mário Pincelli Netto**

**Service: (TR) TRAUMA | (EP) EPIDEMIOLOGY**

**CEP Number: 35137414.3.0000.5505**

5. ABSTRACT (REQUIRED):

**Title:** Ocular trauma in São Paulo, during the FIFA World Cup Brazil 2014®.

**Author and Co-authors:** Pincelli-Netto M, Manso PG, Martins EN

**Purpose:** In Brazil, the winter vacation period (June and July) is associated with a higher incidence of traffic and domestic accidents related to alcohol consumption and fireworks. In 2014, Brazil hosted the FIFA World Cup?, the largest sporting event in the world, at that time. This study aims to evaluate the epidemiological aspects of patients treated at the ocular emergency room of the Federal University of S?o Paulo (UNIFESP), which was selected by the sponsors as the referral center for ocular trauma.

**Methods:** Patients who presented with ocular trauma at the emergency room from June 12th to July 13th 2014 were included. A retrospective cohort was selected including patients from the previous year (matching period). Data regarding age, gender and type of trauma were collected.

**Results:** From a total of 4452 patients admitted to our emergency service during the study period, 245 (5.50%) were diagnosed as ocular traumas. There were 43 women (17.5%) and 202 men (82.5%), with a median age of 25 years amongst women, and 36 amongst men (range, 01 to 94 years). Most injuries were closed globe 238 (97.15%). Among closed globe traumas, corneal foreign body was the most frequent one (45,8%), mainly affecting men between 30-65 years old (75.22%). Chemical burns were seen in 18 patients (7.5%), while thermal injuries were reported by 14 patients (5.9%). Two patients stated that their thermal injuries occurred during World Cup? official celebrations and were firework-related.
Data from 2013 are still being analyzed.

**Conclusion:** Planned comparisons with retrospective cohort are not feasible at this point. However, 2014 data confirm previous findings of an uneven distribution between men and women and a higher frequency among men in labor age. Corneal foreign body was the most common trauma in this study and, despite the celebration events, few traumas were related to them.

**Keywords:** Fifa World Cup Brazil, Ocular trauma, Unifesp

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72. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Marilia Susane Birck**

**Service: (ST) STRABISMUS**

**CEP Number: 0**

5. ABSTRACT (REQUIRED):

**Title:** Characteristics of strabismus in patients with cerebral palsy

**Author and Co-authors:** Marilia Susane Birck, Tomas Fernando Scalamandre de Mendonça

**Purpose:** The primary objective of this study is to analyze specific characteristics of various forms of strabismus in cerebral palsy

**Methods:** Descriptive, prospective study, carried out exclusively through the survey data contained in the medical records of patients attending the outpatient service of the Association for Assistance to Disabled Children, AACD. The data analyzed were type of cerebral palsy causes and cerebral palsy, if any causal factor set.
In addition, the patient's age, sex, time of onset of ocular deviation, size deviation, type of strabismus, among which, convergent or divergent strabismus horizontal, with or without vertical deviation were analyzed.

**Results:** We found 81 patients with cerebral palsy and strabismus. In the study, 37 patients (45.6%) weres diagnosed with esotropia, 40 (49.3%) patients with exotropia, seven of them had associated vertical component and 5.1% had dyskinetic strabismus.
The patients were classified according to the type of cerebral palsy into the groups: athetoid, ataxic and spasticity. The spastic group was divided in quadriplegic, hemiplegic and diplegic. In athetoid group, with 20 people, we found 8 with esotropia and 11 with exotropia. In ataxic group, were found 11 patients, 7 with esotropia and 4 with exotropia 4. 50 patients were in the spastic group, half of them in quadriplegic subtype. In this group, 5 patients had esotropia, 17 had exotropia and 3 had strabismus dyskinetic type. Hemiplegic spastic subtype, 66,4% had esotropia and 33,3% exotropia. In the spastic diplegic subtype, total of 16 patients, 11 with esotropia e 5 with exotropia. Statistical analysis in progress.

**Conclusion:** Analysis in course

**Keywords:** Strabismus, cerebral palsy

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**Title**
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73. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Carolina Hammes Torres**

**Service: (ST) STRABISMUS**
**CEP Number:**

5. ABSTRACT (REQUIRED):

**Title:** Superior Rectus Transposition for Sixth Nerve Palsy Treatment

**Author and Co-authors:** Carolina Hammes Torres; Marcela de Cassia Barreira; Tomas Fernando Scalamandre de Mendonça

**Purpose:** To evaluate the effectiveness of superior rectus transposition surgery to treat esotropia secondary to paralysis of the sixth cranial nerve.

**Methods:** This is retrospective surgical case review. Patients with sixth nerve palsy undergoing surgery since January 2011 to date were included in the study.

All patients underwent surgery for transposition of the superior rectus to the upper side of the lateral rectus of the affected eye; they also did some procedure weakening of the medial rectus, which may be the recession of the muscle, application of botulinum toxin or both. The procedure in the medial rectus may have been performed in the same surgical act or a second procedure.

Main outcome measures were the esotropia in primary position of gaze and abduction limitation. Minimum follow-up was 6 weeks.

**Results:** Nine patients with sixth nerve palsy underwent the procedure. Two patients were excluded, one for data loss and one patient died in the immediate postoperative period. All patients decreased the horizontal deviation and all improved abduction of the operated eye. Two patients had vertical deviations postoperatively.
Data are in analysis at the moment of deadline.

**Conclusion:** Study in progress

**Keywords:** strabismus, sixth nerve palsy, transposition surgery

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74. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Daniel Augusto Ghiraldini Vieira**

**Service: (OR) ORBIT**

5. ABSTRACT (REQUIRED):

**Title:** Sebaceous Gland Carcinoma of the Eyelid: a case report

**Author and Co-authors:** Daniel A. G. Vieira , Fabio I. Marujo, Elcio H. Sato, Denise de Freitas.

**Purpose:** to describe one case of sebaceous gland carcinoma of the eyelid

**Methods:** we investigated one case of sebaceous carcinoma of the eyelid with unusual clinical presentation. Microscopic evaluation was peformed.

**Results:** a 65-year old male patient complaining of ocular irritation for a year. He had been treated for various causes without success. He has a past medical history of obesity, apnea and systemic hypertension. He presented in his first evaluation floppy eyelids, conjunctival hyperemia, areas of fibrosis in the lower tarsal conjunctiva, mucoid filament in the upper tarsal conjunctiva and mild corneal neovascularization. Diagnosis of floppy eyelid syndrome was made and the patient was treated with relative improvement of the symptoms. After 2 months, the clinical aspect had worsened and the patient presented with thickening of the lower eyelid, loss of eyelashes, increased conjunctival hyperemia and pannus. Diagnosis of sebaceous tumor was made and biopsy was performed revealing the presence of sebaceous carcinoma of the eyelid.

**Conclusion:** The low incidence and the non-specific clinical symptoms usually result in a late diagnosis of sebaceous carcinoma of the eyelid. Most of these carcinomas originate in the tarsal meibomian glands although they may originate in the glands of Zeiss of the eyelashes or the sebaceous glands of the caruncle. It is commonly seen between the sixth and seventh decades of life, but may be seen at any age. It comprises 1?5.5% of all malignant tumors of the eyelid. Cytomorphological features of sebaceous carcinoma include sheets, clusters and or singly scattered polygonal cells having centrally placed hyperchromatic nuclei and vacuolated cytoplasm. Microscopic examination shows lobules of cells with multivacuolated clear cytoplasm, raised nucleo-cytoplasmic ratio, clumped chromatin and prominent nucleoli. Treatment of choice is orbital exenteration.

**Keywords:** Sebaceous Gland Carcinoma

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75. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Fabiana da Fonte Gonçalves**

**Service: (US) OCULAR ULTRASOUND | (RE) RETINA AND VITREOUS**

**CEP Number: 04718912.5.0000.5505**

5. ABSTRACT (REQUIRED):

**Title:** Ultrasound evaluation of sclerotomy sites after pars plana vitrectomy in diabetic patients.

**Author and Co-authors:** Fabiana da Fonte Gonçalves, Liliane Kanecadan, Norma Allemann

**Purpose:** The aim of this study is to evaluate the sclerotomy sites after pars plana vitrectomy with ultrasound biomicroscopy and 20 MHz ultrasound (using the immersion technique), to look for neovascularization frequency, the most affected sites and to compare this two methods.

**Methods:** Diabetic patients underwent to pars plana vitrectomy because of vitreous hemorrhage, were included in this study. After 2 or 3 months post operative, it was done the ultrasound biomicroscopy (VuMax?) with 50 MHz probe and ultrasound mode B, with immersion technique and 20 MHz probe (Alcon?). The sclerotomy site was underwent to a classification to graduate the neovascularization status in: O (none), 1 (low fibrovascular proliferation) and 2 (evident fibrovascular proliferation).

**Results:** It was analyzed 9 eyes of 9 patients: 55,5% didn't have hemorrhage recurrence, but 44,5% had recurrence or persistence of the hemorrhage. The sclerotomy site that had more frequent fibrovascular proliferation was the inferior temporal (correspondent to the infusion site), the second most frequent was the site responsible for the illumination. In all patients it wasn?t observed fibrovascular proliferation in the site correspondent to the vitrectomy probe. Is common to observe low fibrovascular proliferation in these two groups, but the evident fibrovascular tissue (grade 2) is highly correspondent to recurrence or persistence of the hemorrhage.

**Conclusion:** The ultrasound biomicroscopy is the best exam to evaluate the sclerotomy sites, but the ultrasound with the immersion technique is also good, and can diagnose evident fibrovascular proliferation, that are the one most correlate with recurrence or persistence of hemorrhage after pars plana vitrectomy.

**Keywords:** sclerotomy, ultrasound biomicroscopy, immersion technique

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76. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Yara Cristina Lopes**

**Service: (US) OCULAR ULTRASOUND | (CA) CATARACT**

**CEP Number: 0**

5. ABSTRACT (REQUIRED):

**Title:** Comparative study of three optical biometers

**Author and Co-authors:** Lopes YC, Souza PH, Allemann N

**Purpose:** To compare the measurements obtained by three optical biometry equipment considering applicability in clinical practice: IOL Master 500 (Carl Zeiss Meditec) considered as gold standard, Lenstar 900 (Haag-Streeit) and the AL-Scan (Nidek).

**Methods:** Prospective study including patients referred for intraocular lens (IOL) calculation prior to surgery or for axial length (AL) measurement. Optical biometry was performed using three instruments in the same visit, under same conditions by one experienced examiner (YCL). Each device was calibrated according to the manufacturer's instructions prior to each session. Eyes with dense media opacity that could not be measured were excluded. Pathologic eyes were included. Paired t-test and Pearson?s correlation coefficient were used to evaluate significance.

**Results:** 122 eyes (65 patients) were submitted to AL measurement with 3 optical biometry devices. Measurements obtained: Mean AL IOLMaster = 24.41 mm (range 21.18 ? 34.01); AL Lenstar = 23.95 mm (range 21.17 ? 33.98); AL-Scan = 24.43 mm (range 21.16 ? 34.05). Person?s correlation coefficient obtained was 0.96 for IOL Master/Lenstar and AL-Scan/Lenstar and 1.00 for IOL Master/AL-Scan.

**Conclusion:** The validation of axial length measurements obtained by different optical biometry devices may improve the standards of care, including in the management of pediatric cases.

**Keywords:** optical biometry, IOL Master, Lenstar, AL-Scan

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77. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Paulo Henrique De Souza**

**Service: (US) OCULAR ULTRASOUND**

**CEP Number: 643823**

5. ABSTRACT (REQUIRED):

**Title:** Optical and B-mode guided ultrasound biometry in cataract and intraocular silicone oil

**Author and Co-authors:** Paulo H Souza; Yara C Lopes; Liliane Kanecadan; Norma Allemann

**Purpose:** To compare axial length (AL) measurements in silicone oil-filled phakic eyes obtained with optical biometry (OpB) and B-mode guided immersion ultrasound biometry (UsB).

**Methods:** Eleven silicone-oil filled eyes (11 patients) with cataract were submitted to preoperative AL measurements using OpB (IOL Master, Zeiss) and UsB (10-MHz transducer, Ultrascan, Alcon) utilizing B-mode guided immersion technique. UsB was performed with the patient in horizontal dorsal decubitus after topical anesthesia (0.5% proxymetacaine), with the aid of an acrylic immersion cup used as an eyelid opener and a container for saline solution. The 10-MHz transducer was positioned with the orientation mark directed nasally and the patient sustaining primary gaze position to promote 4 scans per eye to calculate the average AL. During examination, the examiner was blinded for the measurements that appeared at the monitor, in order to allow influence while editing the cursors.
OpB considered as the ten first obtained AL scans with SNR greater than 1.5 and adequate fixation. Irregular scans that required editing were discarded. Average AL measurements were compared by the Wilcoxon signed

**Results:** Average OpB AL was 25.64 +/- 2.68 mm (range 23.17-30.75 mm) and average B-mode guided UsB was 25.72 +/- 2.44 mm (range 23.73-30.94 mm) (p= 0,3737). The correlation coefficient between both methods was 0.991.

**Conclusion:** In this preliminary report, B-mode guided UsB allowed similar AL measurements in silicone-oil filled phakic eyes when compared to optical biometry. A larger sample is needed in order to validate B-mode guided ultrasound biometry as an alternative when AL measurements are not obtainable using the optical principle.

**Keywords:** B-mode, ultrasound, Optical biometry, axial length silicone oil

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78. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Carla Ribeiro Da Silva Santos**

**Service: (BE) OCULAR BIOENGINEERING**

**CEP Number: 32691414.8.0000.5505**

5. ABSTRACT (REQUIRED):

**Title:** Technology Management in Ophthalmology

**Author and Co-authors:** Santos, C. R.; Sacai, P. Y.; Hirai, F. E.

**Purpose:** This study aims to develop a management guide of health technology in ophthalmology, based on the equipments and clinical routine of the Secondary Reference Center in Ophthalmology (CERESO) of Department of Ophthalmology UNIFESP.

**Methods:** The study and guide development will follow the resolution by the National Health Surveillance Agancy (ANVISA). Equipments basicused for basic ophthalmology practice were listed and their respective technical manuals were collected. A health technology guide in ophthalmology will be developed and will contain the equipment description, as well as all the processes involved in its management and maintenance.

**Results:** Optotype projector, slit lamp, tonometer, auto- refractor, retinoscope, direct and indirect ophthalmoscope, lensometer, electric elevation chair and refractor were slisted as equipments of daily use. All equipments manual were found except for the guide of electric elevation chair. According to a resolution (RDC no. 2/2010) of ANVISA the management guide of health technology must contain: a) definitions and standardized criteria for each stage of management process; b)standardized, updated, recorded and description of technical routines procedures; c) professional responsible for the implementation of the guide and promotion of its effectiveness; d)description of functions and responsibilities of all professionals involved in the processes; e) results of all management activities; f) program of continued education for management professionals, with record of achievement and participation in training sessions.

**Conclusion:** The health technology guide developed follows the resolution proposed by the government and will be accessible to all health professionals involved in ophthalmology. This guide intend to meet requirements not only in public services but also in private clinics.

**Keywords:** Technology; Management in Ophthalmology

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79. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Priscila Mariano De Moura**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: CEP 2014**

5. ABSTRACT (REQUIRED):

**Title:** Angiographic and OCT Assessment in Patients with Diabetic Nephropathy and without signs of proliferative retinopathy

**Author and Co-authors:** Priscila Moura, Fernando Malerbi, Caio Regatieri

**Purpose:** This study was designed to Investigate the retinal circulation and architecture of patients with diabetic nephropathy, which did not show clinical signs of proliferative diabetic retinopathy. The main hypothesis of this investigation is to evaluate the peripheral ischemia in diabetic patients with type 1 nephropathy and normal ophthalmologic clinical examination.

**Methods:** It is a prospective study. Twenty patients with diabetes type 1 and microalbuminuria that did not present clinical signs of proliferative retinopathy were included in this study. Patients were submitted to peripheral angiography with HRA2 (Heidelberg, Germany) and Spectral Domain OCT examinations. Peripheral ischaemia, macular edema, presence of microaneurism and vascular abnormalites were evaluated in the fluorescein angiogram images. Choroidal and retinal thickness were obtained on the SD-OCT images. The data was examined by two retinal specialists.

**Results:** in progress

**Conclusion:** In progress

**Keywords:** diabetic retinopathy, angiography, OCT

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80. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Juliana Cristina Lopes Matarezio**

**Service: (CO) CORNEA AND EXTERNAL DISEASE**

**CEP Number: 227/98**

5. ABSTRACT (REQUIRED):

**Title:** Elaborate a project for establishing a tissue bank facility to provide amniotic membrane for use in ophthalmology

**Author and Co-authors:** Juliana Cristina Lopes Matarezio, Priscila Cardoso Cristovam, Jose Alvaro Pereira Gomes.

**Purpose:** Review in details the brazilian and international regulation for implementation of a tissue bank. Elaborate a project for establishing a tissue bank facility to provide amniotic membrane for use in ophthalmology

**Methods:** Literature review, monitoring the entire process of harvesting, testing, processing, preservation, storage, distribution and application of human tissues and cells and its use for ophthalmologic purposes. Study of national and international regulation about planning, instruments and equipment, staff technique, roles and responsibilities, physical infrastructure, clean environment, donor selection, processing, and final product for distribution.

**Results:** Literature was reviewed, including latest Brazilian, American, European and Japanese regulation on tissue banking. The tissue bank in Sao Paulo/SP was visit.

**Conclusion:** A project for establishing a tissue bank facility following Brazilian regulation is going to be presented

**Keywords:** Tissue Bank, amniotic membrane, ophthalmology

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81. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Renata Taiar Saad**

**Service: (CO) CORNEA AND EXTERNAL DISEASE**

**CEP Number: 677**

5. ABSTRACT (REQUIRED):

**Title:** Regulations about stem cell therapy for ocular surface reconstruction

**Author and Co-authors:** Renata Taiar Saad, Priscila Cardoso Cristovam, Joyce Luciana Covre, Jose Alvaro Pereira Gomes

**Purpose:** To study the Brazilian and international regulations about transplantation of stem cell cultivated ex vivo for ocular surface reconstruction.

**Methods:** Review of the scientific literature, national and international regulations about stem cell therapy for ocular surface reconstruction

**Results:** Literature was reviewed, including latest Brazilian, American and European regulations on cell and tissue banking.

**Conclusion:** Stem cell therapy is an alternative medicine and is widely studied in many areas of medicine in attempt to treat several diseases. In ophthalmology area, some authors described the successful of the stem cell transplantation for ocular surface reconstruction.

**Keywords:** stem cell, Cell and Tissue Bank, ophthalmology

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82. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Cristina Akahoshi do Nascimento**

**Service: (GL) GLAUCOMA**

**CEP Number: 0202/2014**

5. ABSTRACT (REQUIRED):

**Title:** ANALYSIS OF STRATEGIES FOR RECRUITMENT OF VOLUNTEERS PATIENTS FOR CLINICAL TRIALS

**Author and Co-authors:** Cristina Akahoshi do Nascimento; Luci Meire Pereira da Silva; Cristina Muccioli

**Purpose:** Analyze the recruitment strategies through the experience of the Clinical Research Sector, Department of Ophthalmology and Visual Sciences.

**Methods:** The recruitment strategies implemented gradually by the Clinical Research Sector during a study of glaucoma, conducted from June 2011 to June 2014 were reviewed. The strategies implemented during this study were:
- regular contact with ophthalmologists by e-mail and text messages;
- visits in ophthalmology sectors in S?o Paulo Hospital- CERESO (screening sector of ophthalmology), glaucoma and cataract clinics and emergency room;
- visits in associated hospitals;
- media advertisement ? internet, intranet and journal of glaucoma.

**Results:** From 432 patients prescreened from June 2011 to June 2014, we found 176 eligible for screening and 67 patients were randomized. The best results were obtained from the following strategies:
- media: from 188 patients prescreened we found 77 eligible for screening and 22 patients were randomized;
- associated hospitals: 90 prescreening resulting in 32 screened and 17 randomized;
- CERESO: 54 prescreening resulting in 22 screened and 11 randomized;
- glaucoma clinic: 50 prescreening resulting in 19 screened and 8 randomized;
- referral from glaucoma specialists: 20 prescreening resulting in 18 screened and 6 randomized;
- emergency room: 22 prescreening resulting in 4 screened and 2 randomized;
- cataract clinic: 8 prescreening resulting in 4 screened and 1 randomized

**Conclusion:** All strategies used during this study were helpful to improve the recruitment. The best results were found by the following:
-media;
-referrals from associated hospitals, CERESO, glaucoma clinic, glaucoma specialists, emergency room and cataract clinic.
The experience allowed us to improve our database for future clinical trials.

**Keywords:** personnel selection; clinical trials; recruitment strategies, prescreening

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83. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Daniel Martins Rocha**

**Service: (EF) ELECTROPHYSIOLOGY**

**CEP Number: 995275**

5. ABSTRACT (REQUIRED):

**Title:** Frequency and causes clinics of negative electroretinogram over a 10-year period

**Author and Co-authors:** D.M. Rocha, S.R. Salomao, S.E.S. Watanabe, J.M. Pereira, P.Y. Sacai, A. Berezovsky.

**Purpose:** A negative electroretinogram (ERG) is one in which there is a selective reduction in amplitude of the b-wave, such that it does not exceed that of the a-wave. The purpose of this study was to provide a summary overview of the frequency of negative waveform electroretinograms (ERGs) in a University Hospital of Sao Paulo, Brazil.

**Methods:** A retrospective review was performed of all ERGs from March 2004 to abril 2014 under ISCEV standard conditions. Negative ERG as a waveform evoked by a bright flash with a larger a-wave than b-wave resulting in a b/a ratio below 1.0 in at least one eye. Clinical information, such as age, gender, symptoms, presenting visual acuity, history of consanguinity and diagnoses were considered when available.

**Results:** A total of 1812 patients underwent ERG testing during the study period. Of those, 39 patients had a negative ERG, for a frequency of 2.1%. Patients with negative ERG with ages ranging from 0.5-78.1 years (mean=33.0?19.9; median=32.0) had their monocular visual acuity measured using the ETDRS chart, retinal function evaluated by standard full-field ERG. Mean VA in the better-seeing eye was 0.52 ?0.55 logMAR (20/66, Snellen equivalent) and 0.84?0.68 logMAR (20/138, Snellen equivalent) in the worse-seeing eye. Frequencies of negative ERG were 1.5% for adults and 0.6% for children. There is no difference between male and female frequencies for pediatric and adult groups. Unilateral negative ERG was found in 12 patients and bilateral in 17. Overall, the most common causes diagnoses associated with a negative ERG were photoreceptor dystrophy (retinitis pigmentosa, cone-rod dystrophy n=20), uveitis (n=4), X-linked retinoschisis (XLRS, n = 4), congenital stationary night blindness (CSNB, n = 1) and others (n=10). History of consanguinity was found in 9 (23.1%) patients.

**Conclusion:** The overall frequency of negative ERGs in this retrospective review was 2.1%. Negative ERGs were similar among children and adults, males and females. In the majority cases photoreceptor dystrophy was more prevalent associated with negative ERGs in this review study.

**Keywords:** electroretinography, full-field ERG, negative ERG.

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84. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Cintia Sayuri Futino Rodrigues**

**Service: (EP) EPIDEMIOLOGY**

**CEP Number: 1372/08**

5. ABSTRACT (REQUIRED):

**Title:** Evaluation of the Informed Consent Form of clinical trials sponsored by Pharmaceutical Industries

**Author and Co-authors:** Cintia Sayuri Futino, Luci Meire Pereira Silva, Cristina Muccioli

**Purpose:** To evaluate the patient comprehension of the Informed Consent Form in sponsored clinical trials: ethical, legal and social aspects.

**Methods:** A questionnaire was developed based on the requirements of the Resolution 466/12 of the National Health Council. Forty three patients that were enrolled in 6 clinical trials answered the questionnaire at the Department of Ophthalmology and Visual Sciences.

**Results:** A total of 43 subjects answered the questionnaire. Twenty eight percent of the patients were 20-29 yo and 38% had 9-11 years of education. Most patients, 88,37%, understood the concept of clinical trial and 95,35% the informed consent process, but only 41,86% understood the means of control group and 39,53% of placebo. Most of them (95,35%) understood the treatment was part of a clinical trial, but 16,28% did not understand the expected benefits and 20,93% the foreseeable risks and inconveniences. Twenty one percent did not understand the alternative treatments, 23,26% did not understand the two groups of treatment and the probability for randomization. Thirty percent of the patients considered the size letter unsuitable. All patients signed and dated two copies of the ICF and received one. Forty percent of patients did not know about the compensation to the subject in case of injury. Overall, the majority of patients (95.35%) was satisfied with the consent process.

**Conclusion:** These results corroborate the studies that suggest the patient comprehension is overestimate during consent process and the text in ICF is complex. Our results demonstrated that ICF was be in compliance with ethical and legal requirements but the consent form has to be enhanced in order to adequate to the cultural and social differences. The readability of the ICF has to be improved according to the level of education of the Brazilian population. Additionally in studies with visual impaired patients is important to be aware about the size of letter used in the ICF.

**Keywords:** Informed Consent Form, comprehension, clinical trial

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85. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Fábio Kenji Matsumoto**

**Service: (RS) REFRACTIVE SURGERY**

**CEP Number: 17218013.1.0000.5505**

5. ABSTRACT (REQUIRED):

**Title:** Correlation of ocular measurements in individuals submitted to phakic intraocular lens implantation

**Author and Co-authors:** Fabio Kenji Matsumoto, MD; Ibraim Viana Vieira, MD; Adriano Bogar, MD; Flavio Hirai, MD, PhD, Eliane Mayumi Nakano MD, PhD.

**Purpose:** To evaluate the correlation between ocular measurements and final vault value in individuals submitted to V4B phakic intraocular lens (pIOL) implantation.

**Methods:** This is a case series of 27 patients submitted to ICL surgery. Ocular variables such as white-to-white (WTW), angle-to-angle (ATA), and sulcus-to-sulcus (STS) measurements were measured for each patient and correlated with vault values at 7 and 30 days after surgery, stratified by lens size. We have used OPD-SCAN III version 1.08.01, Nidek.Co Ltd and Eye Suite i4.1.0.0 HAAG-Streit Internacional for IOL Master to gauge those measurements. Spearman correlation coefficient was used for the analysis.

**Results:** 52 eyes were evaluated. Mean age (sd) was 30.9 (6.2) years. Correlations for lens size 12 were: -0.449 (STS); -0.110 (ATA); and 0.404 (WTW). Correlations for lens size 12.5 were: -0.492 (STS); -0.284 (ATA); and -0.014

**Conclusion:** Moderate correlation was observed for sulcus-to-sulcus measurements and vault at both time periods. Poor correlations were observed for other variables

**Keywords:** phakic intraocular lens (pIOL) implantation, vault, white-to-white (WTW), angle-to-angle (ATA), sulcus-to-sulcus (STS)

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86. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Mariana Pissante Wisneski**

**Service: (RS) REFRACTIVE SURGERY**

**CEP Number: 623059**

5. ABSTRACT (REQUIRED):

**Title:** Does corneal pachymetry profile depend on the refractive status of the eye?

**Author and Co-authors:** Mariana P. Wisneski, Rafael Kobayashi, Maria Flavia Ribeir, Flavio E. Hirai, Eliane M. Nakano, Claudia Francesconi, Mauro Campos

**Purpose:** To compare corneal thickness across corneal meridians between myopic and emmetropic individuals.

**Methods:** Two hundred and ninety five eyes of 141 patients were evaluated. Examinations included refraction and corneal thickness measured by pentacam and allegro oculyzer. Myopes were categorized as low (spherical equivalent between zero and -3.00); moderate (-3.00 to -6.00); and severe (higher than -6.00). Eyes with spherical equivalent +1,00 and -1,00D were classified as emmetropes.
Corneal meridional thickness profile was compared among groups using Wilcoxon signed rank test and p-values < 0.05 were considered statistically significant.

**Results:** 61 patients (43,2%) were male and mean age was 37.2 years. Mean corneal thickness in emmetropes, low, moderate, and severe myopia groups were 591,1 (50,45), 603.5 (34.4), 601.3 (36.3), and 592.8 (33.3) at 90 degrees. At 270 degrees, mean (sd) values were 592,8 (74,44), 579.2 (31.8), 574.7 (33.9), and 574.5 (33.7), respectively. Comparing opposite meridians between myopes (90 vs. 270), mean values were different in all myopic groups studied ($p<0.001$).

**Conclusion:** corneal thickness profile did not differ with different levels of myopia. However, it showed to be thinner at 270 degrees when compared to the 90 degree meridian in all groups.

**Keywords:** Corneal thickness, myopia, emmetrope

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87. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Eduardo Bicalho Mariottoni**

**Service: (RS) REFRACTIVE SURGERY | (CO) CORNEA AND EXTERNAL DISEASE**

**CEP Number: 0886/09**

5. ABSTRACT (REQUIRED):

**Title:** Biometry changes in Eyes with Central Keratoconus Implanted with Intrastromal Corneal Ring Segment Arc 340°

**Author and Co-authors:** Eduardo Bicalho Mariottoni; Rodrigo Teixeira Santos; Claudia Francesconi; Eliane Mayumi Nakano; Daniele Miranda; Walton Nose

**Purpose:** To analyze and compare biometric parameters (axial length anterior chamber depth) of patients with central keratoconus before and after intrastromal corneal ring segment (ICRS) arc 340 ? implantation.

**Methods:** This prospective study intended to enroll 40 eyes with central keratoconus with the following inclusion criteria: steep meridian until 60 D and thinnest point pachymetry > 400mm. Patients were randomly distributed in two groups: Group A: rings implanted in a stromal tunnel; Group B: rings implanted in a stromal pocket. The biometry was performed by optical means (IOL? and Lenstar?) e ultra-sound. Patients were evaluated preoperatively, and after 7 days and 1, 3, 6 and 12 months of surgery.

**Results:** Up to date, 15 eyes of 15 patients were enrolled for the study, 12 eyes were submitted to the intrastromal corneal ring implantation, 5 have reached the third month after the surgery. This 5 pacients had axial length lowered (mean reduction of 0,12mm after 3 months), mostly because of anterior chamber depth reduction (mean reduction of 0,17mm after 3 months).

**Conclusion:** The 340 arc intrastromal corneal ring showed sings of reduction of both axial length and anterior chamber depth in eyes with central keratoconus. The number of patients enrolled and evaluated post-operatively was still small for statistical analysis, being expected better conclusions as the study progresses and more patients are enrolled and operated.

**Keywords:** Central keratoconus; intrastromal ring; biometry; axial length; anterior chamber depth

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**Title**
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88. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Adriano Bogar**

**Service: (RS) REFRACTIVE SURGERY**

**CEP Number: 17218013.1.0000.5505**

5. ABSTRACT (REQUIRED):

**Title:** Refractive and safety outcomes of ICL V4b posterior chamber phakic intraocular lenses in high myopia

**Author and Co-authors:** Adriano Bogar , Fabio Kenji Matsumoto, Ibraim Viana Vieira, Jo?o Crispim M. L. Ribeiro, Eliane Mayumi Nakano

**Purpose:** To evaluate refractive and safety outcomes in patients submitted to ICL (implantable collamer lens) V4b implantation in high myopia

**Methods:** Prospective study where 21 eyes of 14 patients with high myopia ranging from -6,75 to -15,50 spherical diopters were included. Data about uncorrected visual acuity, best corrected visual acuity, refraction, total high order, spherical and coma wavefront aberrations, as well as contrast sensitivity function were analyzed before surgery and at the last visit of post operative follow-up of ICL implantation. Complications related to the procedure where also investigated and reported.

**Results:** In progress

**Conclusion:** In progress

**Keywords:** phakic implantable ocular lens, ICL, high myopia refractive surgery

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89. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Geraldine Ragot de Melo**

**Service: (RS) REFRACTIVE SURGERY**

**CEP Number: 0**

5. ABSTRACT (REQUIRED):

**Title:** Comparison of refractometric results: mechanical and transepithelial PRK

**Author and Co-authors:** Geraldine R. Melo, Priscila Rymer, Bernardo Kaplan Moscovici, Eliane Mayumi Nakano, Paulo Schor, Claudia Francesconi

**Purpose:** Photorefractive Keratotomy is a refractive surgery technique used to correct refractive errors and decrease dependency on glasses. It consists in removing the corneal epithelium and reshape the cornea with excimer laser.
The removal of the corneal epithelium can be performed manually by scarification with a spatula or excimer laser. The methods above are safe and effective, however there are few studies comparing the postoperative results of these two techniques.
The final visual result is related, among other things, to the residual ametropia that can be quantified by the spherical equivalent.
Our purpose is to study the visual results (spherical equivalent and visual acuity) in the PRK surgery comparing the manual scarification with the transepithelial performed by Excimer Laser.

**Methods:** Prospective, randomized study performed in ambulatory of Refractive Surgery, São Paulo Hospital. 60 eyes of 30 patients who met the following criteria were selected: inclusion: Age 20 to 65 - Indication for refractive surgery with excimer laser - At least 14 days without contact lens for exams
exclusion: - Ocular Herpes - Other related eye diseases - Do not be using medications such as isotretinoin, oral corticosteroids or antidepressants - Clinical evidence of keratoconus
All surgeries were performed in the refractive surgery department by fellows of this department, using the same laser 500 EX Wavelight Allegretto (Alcon ?) and the same specifications, with one eye operated using mechanical scarification and another with transepithelial desepithelization performed by Excimer Laser randomized to the choice of technique. After the excimer laser treatment was applied mitomycin 0.02% over the cornea, using 9mm drill bit, for 30 seconds, to prevent corneal clouding (haze). All patien

**Results:** in conclusion

**Conclusion:** in conclusion

**Keywords:** PRK mechanical, transepithelial

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90. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Luis Henrique Lopes Lira**

**Service: (RS) REFRACTIVE SURGERY**

**CEP Number: 0**

5. ABSTRACT (REQUIRED):

**Title:** Employing the Ishikawa Diagram in a systematic Case-Control Analysis to search the causes of a Diffuse lamellar keratitis outbreak in a high volume excimer laser center

**Author and Co-authors:** Luis H. Lira, MD ; Flavio E. Hirai, MD, MPH, PhD,; Kozo Nakano, MD; Marivaldo Oliveira,MD ; Waldir Portellinha,MD; Eliane M. Nakano, MD

**Purpose:** To seek for the causes of a Diffuse Lamellar Keratitis(DLK) outbreak employing a systematic search tool in a case-control analysis.

**Methods:** Ishikawa diagram was used to guide physicians in determining the potential risk factors involved in this outbreak.Coherence between the occurrences and each possible cause listed in the Diagram was verified. Total number of eyes at risk was used to calculate the proportion of eyes affected. Every individual contributed with only one eye for statistical analysis: for those with both eyes affected, one eye was randomly chosen to be a case and if only one eye was affected, this eye was chosen to be a case. For controls, one eye of each non-affected person was randomly chosen to be a control. If only one eye was submitted to surgery during this period, it was chosen as control.

**Results:** All DLK cases were reported in the period between 2007 June 13th and December 21st, during when 3698 procedures were performed. Out of the 1682 flap-related procedures, 204 eyes of 141 individuals presented DLK. No direct relationship was observed between its occurrence and any specific factors, however flap lifting enhancements, procedures performed during the morning shift and non-use of therapeutic contact lenses after the surgery were significantly related to higher occurrence percentages of this non-specific inflammation.

**Conclusion:** The Ishikawa diagram, like most quality tools, is a visualization and knowledge organization tool. Such systematization allowed investigators to thoroughly search all the possible causes of the DLK outbreak. A clear view of the entire surgical logistics permitted even more rigid management of the main factors involved in the process and, as a result, indicated headings that deserved attention. The case-control analysis regarding every factors raised by the Ishikawa diagram indicated that always suspicious factors such autoclave water reservoir biofilm contamination, air conditioning filter system, glove powder, microkeratome motor oil and gentian violet marker curiously were not related with the outbreak.

**Keywords:** Diffuse Lamellar Keratitis, excimer laser, Ishikawa Diagram

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91. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Renan Albert Mendonça Rodrigues**

**Service: (BE) OCULAR BIOENGINEERING | (CA) CATARACT**

**CEP Number: 250.135**

5. ABSTRACT (REQUIRED):

**Title:** An Ophthalmologic Tool for Cataract Screening

**Author and Co-authors:** Rodrigues, Renan; Ribeiro, Anna; Guerreiro, Ana Maria; Schor, Paulo

**Purpose:** To evaluate prediagnose of cataract using a smartphone camera.

**Methods:** This study was performed at UNIFESP, in the Cataract Sector, using a Smartphone Nexus One (5Mp camera). Images of dilated eyes were obtained from 64 patients, 46 with cataract and 18 cataract free. Pictures were analysed using a specialist system and image processing techniques. After this, an ophthalmologist performed the same analysis and both diagnoses were compared.

**Results:** The proposed system revealed a sensitivity of 93,47% (3 posterior subcapsular cataracts were not detected), specificity of 100%, predictive positive value of 100%, predictive negative value of 85,71% and accuracy of 95,31%. Results were better than those obtained from the ophthalmologist evaluation using the same pictures (61,22%, 66,66%, 85,71%, 34,38% and 62,5%, respectively).

**Conclusion:** The developed system was able to evaluate the presence of cataract in almost all patients and it is presented as a suitable tool for cataract screening in remote areas, overcoming the lack of ophthalmology care in those locations. Thus, it could increase referral of patients, improving access to diagnosis and treatment.

**Keywords:** Cataract; Triage; Remote Diagnosis

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92. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Bruno Rebello de Godoy**

**Service: (CA) CATARACT**

**CEP Number: 16256913.1.0000.5505**

5. ABSTRACT (REQUIRED):

**Title:** Visual outcomes after toric intraocular lens implantation

**Author and Co-authors:** Bruno Rebello de Godoy, Bruno Torres Herrerias, Flavio E. Hirai, Rodrigo Arantes, Milton S. Yogi

**Purpose:** investigate visual outcomes in individuals submitted to cataract surgery and toric intraocular lens implantation

**Methods:** report of a series of cases submitted to phacoemulsification and implantation of toric intraocular lens. Visual outcomes such as visual acuity, IOL axis rotation, and specular microscopy were evaluated. Pre- and 30-day postoperative variables were compared used paired t-test. Random effects model were used to correct for correlations between eyes. All analyses were done with Stata v.11 and p-values less than 0.05 were considered statistically significant

**Results:** 13 individuals (61.5% male) with mean (sd) age 72.5 (7.5) years were submitted to cataract surgery. Pre- and postoperative mean (sd) best corrected visual acuity were 0.51 (0.06) LogMAR (20/60) and 0.05 (0.03) LogMAR (20/25), respectively ($p<0.001$). Regarding the IOL rotation, 64.7% rotated less than 10 degrees after 30 days. Mean (sd) pre- and postoperative endothelial cell density were 2433.8 (268.5) and 1626.3 (492.7) cells/mm2, respectively ($p<0.001$)

**Conclusion:** visual acuity improved significantly in this study population and the IOL showed stability in its axis 30 days after surgery. In addition, significant decrease in endothelial cell density was observed in these individuals although no clinical signs of corneal edema was observed in the last follow-up visit

**Keywords:** Cataract, toric IOL

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93. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Cristiane Okazaki**

**Service: (CA) CATARACT**

**CEP Number: 1889/10**

5. ABSTRACT (REQUIRED):


**Title:** Comparison of surgically induced astigmatism in phacoemulsification surgery between different experience grade surgeons

**Author and Co-authors:** Okazaki,C; Campos,MA

**Purpose:** Compare surgically induction astigmatism in facoemulssification surgeries realized by 3 different groups of surgeons, with different levels of experience.

**Methods:** This is a prospective study were corneal astigmatism in cataract patients were measured before and 1 month after the facoemulssification surgery.

Different experience grade surgeons was selected and divided in three groups: Group 1: 3 years FACO experience and more than 100 surgeries realized, Group 2: 2 years FACO experience and more than 40 surgeries realized and Group 3: 1 year FACO experience and 10 surgeries realized.

All incisions are realized with a 2.75mm calling and the size ranged 3-5mm. Corneal topography and refraction was obtained through NIDEK OPD Scan III device.

Vector analysis was performed to calculate the surgically induced astigmatism. (20)

**Results:** in progress

**Conclusion:** in progress



**Keywords:** surgically induced astigmatism, learning progress, vector analysis

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94. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Danilo Andriatti Paulo**

**Service: (CA) CATARACT**

**CEP Number: 1889/10**

5. ABSTRACT (REQUIRED):

**Title:** Intraocular lens (IOL) power calculation and visual outcome comparing optical (Lenstar) and ultrasound measurements

**Author and Co-authors:** Danilo Andriatti Paulo, Adriana Rainha Mascia, Flavio Eduardo Hirai, Milton Yogi

**Purpose:** To evaluate retrospectively intraocular lens (IOL) power calculation and its results in vision acuity using an optical low-coherence reflectometry (OLCR) biometer, LENSTAR?, and to compare them with those obtained with an ultrasound measurements, in order to give us which sort of calculation has the most accurate IOL.

**Methods:** A group of 100 healthy and normal axial length (22 to 25 mm) eyes, that undergone cataract surgeries successfully, were blindly selected according to their final visual acuity after one month of their surgeries, with neither corneal oedema nor astigmatism higher than 1D. 50% had a final visual acuity better or equal than 20/32 (Snellen Test) after 30 days from the surgery; and 50% were worse than 20/32. In addition, they were divided according to their IOL power calculation, LENSTAR? versus ultrasound measurements, for later being analysed by Fisher?s exact test, and P values less or equal than 0.05 were considered. The IOL calculation was made by expert technicians and the Holladay formula was in use for both sort of equipment. SETTING: The Ophthalmology and Visual Science Department of the Federal University of S?o Paulo ? Paulista Medical School; S?o Paulo-SP; Brazil.

**Results:** Among the group with a final acuity better or equal than 20/32, 42 eyes were analysed by ultrasound and 7 by LENSTAR?; the comparison was not statistically relevant (P=0,4411), table 1. On the other group (worse than 20/32), 38 eyes were analysed by ultrasound and 13 by LENSTAR?; the comparison was not statistically relevant (P=0.9456) as well, table 2. Comparing both group together, 80 eyes were analysed by ultrasound and 20 by LENSTAR?; likewise, the proportion was not statistically relevant (P=0.161), table 3.

**Conclusion:** Despite the fact that the number of patients that went through the optic or the ultrasound measurements was not similar in this service, the number of eyes from both groups was commensurable. From that, it is possible to infer that there is no statistically relevant difference in the IOL power calculation between both group (ultrasound and LENSTAR) in this service.

**Keywords:** cataract, lenstar, ultrasound, iol

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95. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Felipe Taveira Daher**

**Service: (CA) CATARACT**

**CEP Number: 4038033**

5. ABSTRACT (REQUIRED):

**Title:** COMPLICATIONS IN CATARACT SURGERY PERFORMED BY TRAINING SURGEONS AT THE PAULISTA SCHOOL OF MEDICINE

**Author and Co-authors:** Daher, F; Yogi, M; Prudente, P; Viana, I.

**Purpose:** Analyse the total number of complications and the most common complications in cataract surgery performed by training surgeons in the months of June to November of 2014 at the S?o Paulo Hospital - Paulista School of Medicine.

**Methods:** The cataract surgeries were normally performed at the Ophthalmology Surgical Center at the São Paulo Hospital. The training surgeons involved on these research were the second year residents, third year residents and fellows of the Cataract Sector.
Not all second and third year residents were involved on these research, only those who were at the Cataract stage during the research months.
All residents had supervision of the staff-attending doctors during the surgeries and the fellows had the supervision when required. Usually, second year residents performed one surgery per day, third year residents performed three surgeries per day and fellows performed one surgery per day.
After the surgery all training-doctors fulfilled a ?surgery report? with general information of the procedure independently of complications, those reports were used to know the total number of surgeries performed in our service, once that the schedule board are usually incorrect because some surgeries did not

**Results:** In course.

**Conclusion:** In course.

**Keywords:** Cataract, complications, training-surgeons, residents

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96. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Fábio Ribeiro Colombo**

**Service: (CA) CATARACT**

**CEP Number: 72656**

5. ABSTRACT (REQUIRED):

**Title:** Quality of life evaluation after implantation of an aspheric foldable intraocular lens after cataract extraction through microincison

**Author and Co-authors:** Fabio Colombo, Nathalia Valdrighi, Maria Flavia Ribeiro, Flavio Hirai, Milton Yogi, Luis Otavio Guarnieri

**Purpose:** To evaluate visual function and quality of life in cataract patients that underwent phacoemulsification and were submited to a clear corneal microincion surgery of 2.2 mm and that were submitted to Miniflex? IOL implant

**Methods:** This study is a analysis of 30 individuals that underwent traditional phacoemulsification with microincision and Miniflex IOL implant. The National Eye Institute?Visual Functioning Questionnaire - 25 (VFQ-25) was administered before and after the surgery. Composite score was calculated

**Results:** Data of 50 individuals were complete and analyzed. Mean (SD) pre-operative score was 71.70 (13.91) and approximately one year after surgery mean (SD) score increased to 81.97 (10.5) (p=0.001)

**Conclusion:** Individuals reported better vision-related quality of life after microincision cataract surgery measured by the NEI-VFQ-25 questionnaire

**Keywords:** Cataract, Quality of Life, Ophthalmology

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97. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Jacqueline Martins de Sousa**

**Service: (CA) CATARACT**

**CEP Number: 617895**

5. ABSTRACT (REQUIRED):

**Title:** Agreement between different keratometry measurements for toric intraocular lens

**Author and Co-authors:** Jacqueline M. Sousa, Joao Crispim, Alessandra Trad, Milton Yogi

**Purpose:** To evaluate the difference between five methods of keratometry measurement in eyes with cataract and corneal astigmatism with indication of toric intraocular lens (IOL) implantation.

**Methods:** Patients requiring cataract surgery were prospectively included with corneal astigmatism of 1.50 D or greater, without ocular comorbidities. Keratometry measurements were performed in five devices: Atlas 9000, IOL Master v.5, Lenstar LS 900, OPD-Scan III, and Pentacam. Refractive power of the cornea, astigmatism and axis of each device for each patient were evaluated preoperatively. The agreement between the measurements of the instruments was assessed by intraclass correlation coefficient (ICC). The values of the Pearson correlation coefficient (r) were also evaluated. The toric IOL implanted was AcrySof IQ Toric, and the keratometry measurement was based on IOL Master. Differences between anticipated residual astigmatism (ARA) from each device and true residual astigmatism (TRA) at one month after surgery were also analyzed.

**Results:** 28 eyes from 23 patients were evaluated. IOL Master versus OPD: astigmatism ICC = 0.7100 and axis ICC = 0.7680 (good agreement); IOL Master versus Lenstar: astigmatism ICC = 0.7700 and axis ICC = 0.8850 (good agreement); IOL Master versus Atlas: astigmatism ICC = 0.7070 and axis ICC = 0.7220 (good agreement); IOL Master versus Pentacam: astigmatism ICC = 0.6960 and axis ICC = 0.5500 (moderate agreement). IOL Master versus OPD: astigmatism r = 0.7054 and axis r = 0.7617 (good agreement); IOL Master Lenstar: astigmatism r = 0.7712 and axis r = 0.8882 (good agreement for astigmatism and strong for axis); IOL Master versus Atlas: astigmatism r = 0.7042 and axis r = 0.7165 (good agreement); IOL Master versus Pentacam: astigmatism r = 0.7034 and axis r = 0.5408 (good agreement for astigmatism and moderate for axis). Postoperative data are still in progress.

**Conclusion:** From preoperative data, IOL Master, OPD, Lenstar and Atlas demonstrate a good agreement between astigmatism power and axis. Pentacam have less agreement, particularly in the axis. Differences between ARA and TRA are still in progress.

**Keywords:** Cataract, astigmatism, cornea, toric intraocular lens, keratometry

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**Name: Paula Delegrego Borba**

**Service: (CA) CATARACT**

**CEP Number: 0**

5. ABSTRACT (REQUIRED):

**Title:** Comparative Analysis of Measurements and Post Operative Refractional Results of Three Optical Biometers

**Author and Co-authors:** Borba, PD; Crispim, J; Gomes, R; Melo, Joyce T; Yogi, Milton S

**Purpose:** To evaluate the reproducibility of measurements and compare the post operative refractional results of three optic biometers: IOL Master 500 (Zeiss), Lenstar 900 (Haag Streit) and AL-Scan (NIDEK).

**Methods:** Patients who have undergone phacoemulsification and intraocular lens implant without complications were prospectively enrolled. Exclusion criteria were patients younger than 50 years old, ocular comorbidities, amblyopia, high intraocular pressure (>21 mmHg) and only eye. Besides the regular postoperative consultations, at the 90th postoperative day all participants underwent complete ophthalmological examination, refraction test and calculation of the spherical equivalent. Biometry was performed in all patients using three optical biometers: IOL Master? 500 (Zeiss), Lenstar? 900 (Haag Streit) and AL-Scan? (NIDEK). The intraocular power was calculated using the formulas Haigis, SRK-T and Holladay. We have compared measurements obtained by the three devices and evaluated what device and what formula could best predict the postoperative results.

**Results:** in progress

**Conclusion:** in progress

**Keywords:** cataracts, biometry, biometer, refraction, IOL Master, AL Scan, Lenstar, measurement, optical biometry, optical biometer

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99. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Renan Braido Dias**

**Service: (CA) CATARACT**

**CEP Number: in progress**

5. ABSTRACT (REQUIRED):

**Title:** PRE OPERATIVE ORIENTATIONS IN CATARACT PATIENTS : WHAT PATIENTS UNDERSTAND AND EXPETCS ABOUT CATARACT SURGERY IN PUBLIC SERVICE IN BRAZIL

**Author and Co-authors:** Renan Braido Dias, Flavio Hirai M.D., Milton Yogi M.D. , Liang Shin Jung M.D.,

**Purpose:** Preoperative orientation in cataract surgery in a public hospital: patients and experts understanding

**Methods:** To compare the choroidal thickness measured by Enhanced Depth Image (EDI) Spectral Domain Optical Coherence Tomography (SD-OCT) in areas with and without macular edema in patients with diabetic retinopathy.

**Results:** in progress

**Conclusion:** in progress

**Keywords:** pre operative, comprehension, cataract surgery

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100. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Francieli Agrizzi**

**Service: (CA) CATARACT | (EP) EPIDEMIOLOGY**

**CEP Number: 5711001**

5. ABSTRACT (REQUIRED):

**Title:** Epidemiological aspects of children with cataract evaluated from the Congenital Cataract Sector at Unifesp

**Author and Co-authors:** Francieli Agrizzi,Juliana Fumes,Ana Paula Silverio Rodrigues,Carmen Bongiovanni

**Purpose:** To analyze the epidemiological profile of children that had been submitted to surgery in 2012 at Unifesp Congenital Cataract Sector

**Methods:** A retrospective study of 70 eyes and 56 children who underwent surgery at the Congenital Cataract Sector - Department of Ophthalmology-Unifesp,Brazil,2012.

**Results:** Among the 56 children,45% were female and 55% were male. It was observed that 71,4% of the patients had unilateral cataract and 25% had bilateral cataract. Between the different morphological types of cataract, 27% of the patients had lamellar cataract, 19,6% had nuclear cataract, 16% total, 8,9% cortical, 1,7% posterior polar and 1,7% sutural cataract. The average range between the birth date and the admission date in the congenital cataract sector was 3,6 years. Fifteen patients (27%) were under 1 year old of age, and 12 (80%) were submitted to the ocular birth test; 9 of them had altered results, 3 had normal results despite of the cataract and the other 3 were not able to inform. Concerning syndromes, only 3 (5%) of the patients had Down Syndrome. On the other hand, 7,15% had metabolic disease (all of them had unilateral cataract) and 12,5% had other syndromes. While trying to understand the association with other ocular alterations, we found that 13 patients (23,2%) showed problems which 11(84,61%) had unilateral cataract and 2(15,38%) had bilateral cataract. There were 5 patients with leucoma, 1 patient with anterior lenticone, 4 patients with microcornea, 1 with iris coloboma, 1 with discoria, 1 aniridia, and 4 persistent fetal vasculature. Other 3 patients had cataract after a retinoblastoma treatment.

**Conclusion:** The lamellar cataract, as showed in the literature, was the most common morphological type found in the study. We also observed that there is a bigger occurrence of unilateral cataract which is more associated to ocular alterations. Bilateral cataract, in most cases, is idiopatic and hereditary or is rarely associated to metabolic diseases, even though all cases found in our study were unilateral cataracts. We know that there is a great delay between the diagnosis and the treatment of children?s cataract due to the lack of specialized treatment centers.

**Keywords:** Cataract/congenital;Cataract/types;epidemiological aspects;Retrospectives studies

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101. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Felipe Pereira**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: 04336812.3.0000.5505**

5. ABSTRACT (REQUIRED):

**Title:** Choroidal thickness comparison of non edematous and edematous macular areas in patients with diabetic macular edema using EDI-OCT

**Author and Co-authors:** Felipe Pereira, Stéphanie de Almeida Fontanelli, Eduardo Amorim Novais, Caio Vinicius Saito Regatieri

**Purpose:** To compare the choroidal thickness measured by Enhanced Depth Image (EDI) Spectral Domain Optical Coherence Tomography (SD-OCT) in areas with and without macular edema in patients with diabetic retinopathy.

**Methods:** Sixteen eyes of 12 patients underwent high-definition vertical line scanning using EDI SD-OCT with frame enhancement software. Choroidal thickness was measured from the posterior edge of the retinal pigment epithelium to the choroid/sclera junction at 250µm intervals, starting from the center of the fovea until area without edema. Mann Whitney test was used to compare the choroidal thickness in both areas.

**Results:** Mean choroidal thickness measured in the area with edema was thicker in comparison with the area without edema (249,25µm vs. 236,57µm, respectively. P= 0,3). The mean superior border of the edema was compare with the mean adjacent area without edema (270,31µm vs. 262,87µm respectively. P=0,75). We did the same comparison in the inferior area that showed a mean of 231,18µm in the area with edema and 226,56µm in the adjacent area without edema (P=0,9).

**Conclusion:** There was no difference between the choroidal thickness measured in the area with edema and without edema in the same eye of diabetic patients. Additionally it was not found a choroidal thickness pattern, as it is observed in normal subjects.

**Keywords:** choroidal thickness; retinal edema; OCT-spectral-domain; diabetic macular edema.

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102. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: José Belúcio Neto**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: 0733/10**

5. ABSTRACT (REQUIRED):

**Title:** Evaluation of 577nm multispot vs 532nm single-spot panretinal photocoagulation for Diabetic Retinopathy: a clinical trial

**Author and Co-authors:** Bel?cio-Neto J, Xavier CO, Dias JR, Passos RM, Moraes NBS, Maia A

**Purpose:** To evaluate and compare patient tolerance, treatment parameters, safety and anatomical/functional outcomes in patients with diabetic retinopathy who underwent panretinal photocoagulation with 577nm multispot laser (Supra Scan?, Quantel Medical) versus 532nm single-spot laser (PASCAL?, Topcon).

**Methods:** Single-center, randomized clinical trial involving 30 eyes (one eye per patient), including individuals with diabetic retinopathy without previous treatment. Eyes with ocular comorbidities or previous intravitreal injection or vitrectomy were excluded. After recruitment, best corrected visual acuity (Snellen), OCT, fluorescein angiography and retinography were performed. Patients were then submitted to panretinal photocoagulation (PRP), either using 577nm multispot laser with 10-20ms exposure time (group 1) or 532nm single-spot laser with 100ms exposure time (group 2). The exams were repeated at 6 months and 1 year after PRP conclusion. The main outcome was regression of neovessels at 1 year and secondary outcomes were laser parameters, laser spots characteristics, number of sessions and patient tolerance (in a subjective scale from 0 _no discomfort_ to 10 _extreme discomfort).

**Results:** Until now 16 patients have been recruited and 2 excluded. 14 patients are being followed, 7 in each group, and 10 have completed treatment. For patients included in group 1 mean maximum power used in the treatment was 708,3?108,4 mJ, producing 2457?43,5 spots in 3,2?0,6 sessions. In the first, second and third sessions, mean pain was 2,4?2,2, 3,4?3,4 and 5,3?2,51; and mean photophobia was 3,4?3,5, 4,0?4,4 and 5,0?4,4, respectively. In group 2, mean maximum power was 388,3?162,1 mJ, with 1243,7?159,7 spots produced in 3,2?0,4 sessions. Mean pain was respectively 4,4?2,1, 5,9?3,4 and 5,7?2,3 in the first, second and third sessions; and mean photophobia was 4,71?1,9, 7,1?2,3 and 6,7?2,7.

**Conclusion:** Preliminary results show that number of sessions required for PRP was similar in both groups. 532nm laser uses less amount of energy per session (due to increased exposure time), while 577nm seems to be more comfortable. Follow up data will be used to compare effectiveness and anatomical outcomes between the groups.

**Keywords:** Diabetic retinopathy, photocoagulation, multispot laser

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103. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Mariah Mendes Rufino Uehara**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: 4037004**

5. ABSTRACT (REQUIRED):

**Title:** Regression of Drusen after Combined Treatment using Photodynamic Therapy with Verteporfin and Ranibizumab: A Case Report.

**Author and Co-authors:** Mariah M Rufino Uehara, MD, Eduardo Amorim Novais, MD, Emmerson Badar?, MD, Caio Vinicius Saito Regatieri, MD, PhD, Jay Duker, MD, PhD, Pedro Paulo de Oliveira Bonomo, MD, PhD.

**Purpose:** The purpose of this case is to report complete regression of large soft drusen and RPE detachment after reduced-fluence PDT and ranibizumab injection with no RPE damage.

**Methods:** Introduction: Age-related macular degeneration (AMD) is the leading cause of irreversible blindness in patients older than 50 years in developed countries and drusen are the clinical hallmark of AMD. Previous studies suggest that for patients with large drusen who are taking antioxidant supplementation are less likely to lose 15 or more letters of VA secondary to age-related degeneration progression, during follow-up period. There is no proven treatment for drusen. Previous investigators report that drusen may regress in some eyes treated with argon, krypton, dye or diode laser photocoagulation. Reduced-fluence PDT may have the same effect of laser photocoagulation on the RPE cells that would lead to drusen regression without causing thermic lesions.

**Results:** This paper does not contain any results since it is about a case report.

**Conclusion:** Discussion: The prophylactic treatment of drusen in patients with early AMD using diode and argon laser has been tested in the past. Although the regression of drusen was noticed in some eyes, the incidence of CNV was not decreased, and in some patients, it was secondary to laser burn injury. In this case we suggest that the progressive visual acuity decrease was secondary to polypoidal choroidal vasculopathy. The explanation for drusen resolution after reduced-fluence PDT in this case is unclear. It is known that drusen can regress spontaneously with or without RPE atrophy, but in this case report we believe that it was induced by PDT since the regression was only at the treated area.

**Keywords:** Photodynamic therapy, drusen, age related macular degeneration.

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104. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Müller Gonçalves Urias**

**Service: (RE) RETINA AND VITREOUS | (NO) NEURO-OPHTHALMOLOGY**

**CEP Number: 1539/11**

5. ABSTRACT (REQUIRED):

**Title:** Early neural retinal changes in type 2 diabetes mellitus: an OCT study

**Author and Co-authors:** Eduardo Buchele Rodrigues; Muller Gonçalves Urias; Fernando Marcondes Penha; Emmerson Badaro; Eduardo Novais; Michel Eid Farah

**Purpose:** To investigate neural retinal changes prior to microangiopathy in type 2 diabetes mellitus (DM) patients with no diabetic retinopathy (DR) and in type 2 DM patients with mild DR only.

**Methods:** A cross-sectional study was performed in three groups: patients without DM (control), patients with type 2 DM with no DR, and patients with type 2 DM with mild DR. Analysis of retinal layers was performed with the Cirrus HD-OCT Review Software 6.0 (Carl Zeiss Meditec, Dublin, CA, USA). Macular cube and HD raster scans were analyzed with regard to: the ganglion cell layer + inner plexiform layer (GCL+IPL) analysis, retinal nerve fiber layer (RNFL) thickness, central subfoveal (CS) retinal thickness, average macular thickness and total retinal (RT) thickness. Line scans were perform in order to proceed the subjective analysis by two independent examiners.

**Results:** In total, 102 patients were included in this study, of which 28 (27.4%) presented mild DR and 46 (45.0%) were classified as DM patients with no DR. Automated analysis with the Cirrus software showed that the mean GCL+IPL and mean RNFL were thinner in the group with DM with no DR when compared to controls. ANOVA with Bonferroni correction indicated a statistically significant reduction in RT in mild DR ($p = 0.032$); in GCL+IPL in DM with no DR ($p = 0.039$) and mild DR ($P = 0.003$); and in RNFL in DM with no DR and in mild RD ($P < 0.001$), compared to controls.
Subjective analysis of examiner 1 showed difference in GCL, between the mild DR group and controls ($P = 0.043$), and in CS between the DM with no DR group and controls ($P = 0.037$). According to examiner 2, there were changes between the groups only in GCL($P < 0.001$). Analysis of reproducibility of measures using intraclass correlation showed good correlation in INL (0.77) and ONL (0.78) measurements. The correlation between measurements of examiners in GCL (0.64), IPL (0.52), OPL (0.69) and fovea (0.72) was considered satisfactory. RNFL measurements was considered poor(0.17).

**Conclusion:** Our study found reduction in thickness of GCL+IPL and RFNL in patients with DM with no DR, which suggests neuroretinal changes before microangiopathy.

**Keywords:** diabetic retinopathy, oct, diabetes

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105. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Murilo Bertazzo Peres**

**Service: (RE) RETINA AND VITREOUS | (CA) CATARACT**

**CEP Number: 16489142**

5. ABSTRACT (REQUIRED):

**Title:** Effects of intracameral carbachol in macular morphology following phacoemulsification surgery

**Author and Co-authors:** Murilo Bertazzo Peres MD; Huber Martins Vasconcelos Junior MD; Ramon Antunes de Oliveira MD; Luiz Lima MD

**Purpose:** To investigate the effects of intracameral carbachol following phacoemulsification surgery on macular thickness and retina vascularization.

**Methods:** This prospective and one blinded study has created two groups of patients: a carbachol group, that included patients who received 0.5mL of intracameral 0.01% carbachol in the end of phacoemulsification surgery; a control group, that included patients who did not received the drug after de surgery. All patients underwent complete ophthalmologic examination and were examined with optical coherence tomography (OCT) for macular and vessels measurements at preoperative, first day, first week and first month of postoperative. Patients with intraoperative complications such as posterior capsule rupture, glaucoma, uveitis, retinal disease or history of trauma or previous intraocular surgeries were excluded.

**Results:** In progress

**Conclusion:** In progress

**Keywords:** carbachol,macular thickness, optical coherence tomography, macula, intracameral injection, phacoemulsification

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106. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Felipe Abdo Jorge**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: 0345/10**

5. ABSTRACT (REQUIRED):

**Title:** Daily OCT examination after first anti-VEGF injection: Implication for drug pharmacokinetics.

**Author and Co-authors:** Felipe Abdo, MD, Eduardo A. Novais, MD, Emmerson Badar?, MD, Renata P. Nunes, MD, Eduardo B. Rodrigues, MD, PhD, Michel Eid Farah, MD, PhD.

**Purpose:** To evaluate the Spectral Domain OCT (SD-OCT) changes in naive-treatment patients with the diagnosis of active exudative Age Related Macular Degeneration (AMD) submitted to intravitreal injection of 0.05mL of Bevacizumab during a 30-days period follow up.

**Methods:** Patients with neovascular AMD were submitted to a complete ophthalmological examination, fluorescein angiography, and SD-OCT at baseline (T0). Daily SD-OCT was performed for 30 days after the first intravitreal injection. All patients were treatment-naive with a macular thickness >250 ?m (OCT) with a visual acuity (VA) between 20/25 and 20/400 (ETDRS), older than 50 years.

**Results:** Nine eyes from 9 different patients with active neovascular AMD were enrolled in this study. The baseline, initial decrease, minimal and final CRT were accessed. The mean baseline CRT was 625.3?m (?182.5?m) and the mean final CRT was 383.4?m (?163.0?m) with a mean difference of 206.1?m (?167.6?m) between baseline and final CRT (p=0.006). After the first anti-VEGF intravitreal injection, the initial decrease in the CRT was noticed, on average, at day 2 with mean CRT of 503.6?m (?189.10?m) (p= 0.0431). At day 17, the mean CRT reached a value of 336.5?m (?105.44?m), and the mean minimal CRT achieved at day 30 thickness of 320.75?m (?96.38?m).

**Conclusion:** During the follow up period (30 days) there was a tendency for the decrease of CRT observed with OCT in patients submitted to intravitreal injection of 0.05mL of Bevacizumab. This decrease was more pronounced within the the first 17 days of follow up.

**Keywords:** anti-VEGF, pharmacokinetics, AMD, OCT

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107. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Adriano de Morais Ferreira**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: 1529/11**

5. ABSTRACT (REQUIRED):

**Title:** Evaluation of choroidal thickness using enhanced depth imaging optical coherence tomography (EDI - OCT) in asymptomatic sickle cell pediatric patients

**Author and Co-authors:** Adriano Ferreira, Juliana Prazeres, Luiz Filipe Lucatto, Caio Regatieri, Nilva Bueno de Moraes

**Purpose:** This study aim to compare choroidal thickness in patients with sickle cell hemoglobinopathies (SCH) with healthy controls using enhanced depth imaging OCT.

**Methods:** Eighty eyes of 40 children with sickle cell hemoglobinopathies (SS, SC, S-thal) and 36 eyes of age-similar, visually normal control subjects underwent high-definition raster scanning using spectral-domain optical coherence tomography with enhanced-depth imaging technology. Patients with sickle cell hemoglobinopathy did not present any sign of proliferative retinopathy. Choroidal thickness was measured perpendicularly from the outer edge of the retinal pigment epithelium to the choroid-sclera boundary at 5 points: subfoveal, 500 ?m nasal to the fovea, 1,500 ?m nasal to the fovea, 500 ?m temporal to the fovea and 1,500 ?m temporal to the fovea. Comparisons of continuous and categorical data from each regions were performed with Student's t test and chisquare. The analysis was performed using Stata v.11 (Stata Corp, College Station, Texas).

**Results:** Fifty-three eyes (66.25%) had no signs of retinopathy, 20 eyes (25.0%) had vascular tortuosity, 3 peripheral ischemia (3.75%), 1 black sunburst (1.25%), 2 thinning vascular (2.5%) and 1 (1.3%) white without pressure. It was possible to perform EDI - OCT in 60 eyes of 40 patients with SCH and in 32 eyes of 36 normal control subjects. Mean choroidal thickness showed a pattern of thinnest choroid nasally, thickening in the subfoveal region, and thinning again temporally in normal subjects and patients with sickle cell hemoglbinopathy. Analysis of choroidal thickness is in progress.

**Conclusion:** EDI-OCT may be useful to evaluate the choroid thickness and, indirectly, detect choroidal changes in pathologic states as choroid capillary non-perfusion due to subclinical vaso-occlusive events in SCH patients.

**Keywords:** choroidal thickness, sickle cell hemoglobinopathies, optical coherence tomography (OCT).

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**Deadline: 10/2014**

FORMAT:

Abstract should contain:

**Title**
**Author, Co-authors (maximum 6), Purpose, Methods, Results, Conclusion.**

Poster guidelines:

108. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Diego Monteiro Verginassi**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: 0**

5. ABSTRACT (REQUIRED):

**Title:** Heavy silicone oil as a long-term endotamponade agent for complicated retinal detachments.

**Author and Co-authors:** Verginassi D, Prazeres J, Magalhaes O Jr, Lucatto LF, Moraes NS, Farah ME, Maia M

**Purpose:** We retrospectively evaluated a heavy silicone oil (HSO) as a long-term intraocular endotamponade agent to treat complicated RD by inferior PVR in 25 eyes of 25 patients.

**Methods:** Patients underwent PPV and injection of Oxane HD as an internal tamponade agent. A comparison of preoperative and postoperative BCVA at month 1, month 6, and last visit was made in the group in which HSO was removed and in the group in which HSO was not removed. Statistical calculations were performed using the Wilcoxon test.

**Results:** The HSO was removed from 11 patients after a mean of 26.55 ? 21.38 months. The HSO remained inside the vitreous cavity in 14 eyes due to a high chance of PVR recurrence (mean follow-up period, 11.07 ? 7.44 months). Anatomic success was achieved in 92%. The BCVA in the group, in which HSO was not removed, improved significantly during the first 6 months. Among the patients who had the oil removed, there was improvement in BCVA after 1 month. Oil emulsification was the most common adverse effect in 52% of eyes.

**Conclusion:** HSO is an effective tamponade in complex rhegmatogenous and tractional RD complicated by PVR. HSO can remain in the eye for long periods with relative tolerability and safety.

**Keywords:** retina , vitreous, surgery

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Review the Scientific Section Descriptions. Select and enter the two-letter Code for the one (1) Section best suited to review your abstract.

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**Author, Co-authors (maximum 6), Purpose, Methods, Results, Conclusion.**

109. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Grace Peng**

**Service: (RE) RETINA AND VITREOUS | (LA) LABORATORY**

**CEP Number: 0259/12**

5. ABSTRACT (REQUIRED):

**Title:** Endophthalmitis: a comparative evaluation between real-time polymerase chain reaction(PCR) test and conventional microbiological diagnostic methods

**Author and Co-authors:** Peng G, Bispo PJM, Luchesi L, Yu MCZ, Hofling-Lima AL

**Purpose:** To establish the utility of real-time polymerase chain reaction(PCR) in the diagnosis of bacterial endophthalmitis of multiple etiologies.

**Methods:** in progress

**Results:** in progress

**Conclusion:** in progress

**Keywords:** endophthalmitis, PCR

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110. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Lucas Valadão de Brito Soares**

**Service: (RE) RETINA AND VITREOUS | NONE**

**CEP Number: CEP/Einstein nº. 366/2011**

5. ABSTRACT (REQUIRED):

**Title:** Hyperbaric Oxygen Therapy for Choroidal Neovascularization: A Pilot Study.

**Author and Co-authors:** Lucas Valadao de B. Soares, MD; Fernando K. Malerbi, MD; Eduardo A. Novais, MD; Emmerson Badar?, MD; Claudio L. Lottenberg, MD; Andre Maia, MD

**Purpose:** Choroidal neovascularization (CNV) is one of the leading causes of blindness worldwide, and affects patients with wet age-related macular degeneration (AMD). Even VEGF blockade, currently the best available treatments for CNV, may fail to improve vision. Hyperbaric oxygen therapy (HBO) may be an alternative for the treatment of CNV.

**Methods:** Patients with active CNV underwent 10 daily sessions of HBO at 2 atmosphere absolute (ATA) for 120 minutes each session. After the end of the sessions, patients with clinical or tomographical signs of CNV activity underwent standard anti-VEGF treatment.

**Results:** Seven patients underwent ten daily 120 minutes sessions of HBO at 2 ATA. After the sessions, five patients underwent intravitreal injection of Bevacizumab. Average follow up was 150 days. At the end of follow up, five patients showed anatomical improvement, one patient maintained anatomical aspect and one patient showed anatomical worsening.

**Conclusion:** HBO was a safe and tolerable treatment option as monotherapy or in combination with anti-VEGF blockade for patients with active CNV.

**Keywords:** Choroidal Neovascularization; Hyperbaric Oxygen Therapy; Age-Related Macular Degeneration

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111. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Roberta Andrade e Nascimento**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: 0**

5. ABSTRACT (REQUIRED):

**Title:** Treatment of retinal pigmented epithelium detachment (PED) secondary to idiopathic polypoidal choroidal vasculopathy with intravitreal injections of bevacizumab biweekly

**Author and Co-authors:** Roberta Andrade e Nascimento, Mariana de Andrade Coelho, Patricia Kakizaki, Pedro Paulo Bonomo

**Purpose:** To study the efficacy of intravitreal bevacizumab therapy for the treatment of retinal pigmented epithelium detachment (PED) secondary to idiopathic polypoidal choroidal vasculopathy

**Methods:** A prospective clinical study to evaluate the efficacy of treatment with intravitreal bevacizumab in the treatment of PED secondary to idiopathic polypoidal choroidal vasculopathy. Patients with Idiopathic polypoidal choroidal vasculopathy presenting PED, diagnosed by indocyanine green angiography (ICGA), fluorescein angiography (FA) and optical coherence tomography (OCT) will be undergoing treatment with intravitreal bevacizumab biweekly for three consecutive months. Patients will be evaluated with visual acuity (VA) and OCT before and after each intravitreal injection of bevacizumab. Four weeks after the sixth injection, will be evaluated with examination of VA (by Snellen chart), OCT, FA and ICG. Patients who still show signs of disease activity will be resubmitted to treatment.

**Results:** under analysis

**Conclusion:** under analysis

**Keywords:** PED, POLYPOIDAL CHOROIDAL VASCULOPATHY, ANTIVEGF

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Poster guidelines:

112. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Camila Oliveira Xavier**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: 353843**

5. ABSTRACT (REQUIRED):

**Title:** Intravitreal injections of Bevacizumabe versus injections associated with Yellow Diode Micropulse Laser in the treatment of Diabetic Macular Edema.

**Author and Co-authors:** Camilla Xavier; João Rafael Dias; Luiz Roisman; Renato Magalhães Passos; Nilva Simeren Bueno de Moraes; Andre Maia

**Purpose:** To compare the efficacy of intravitreal injections of Bevacizumabe with injections associated with Yellow Diode Micropulse Laser inthe treatment of Diabetic Macular Edema.

**Methods:** Patients diagnosed with DME were divided in two groups. In group 1 patients were treated with intravitreal injections of Bevacizumabe. In group 2 patients were treated with injections and Yellow Diode Micropulse Laser (Quantel Supra Scan 577 TMPhotocoagulator Laser@ , Quantel, Paris, France). Both groups of patients had their vision tested with the ETDRS chart (Early Treatment Diabetic Retinopathy Study), and were submitted to Fluorescein Angiography, Microperimetry and Optic Coherence Tomography tests at the beggining of the treatment and monthly for the next three months. Patients in group 1 who presented with increase in 100 micras or more in OCT and decrease of one or more lines in the ETDRS chart were submitted to new injections of bevacizumabe four weeks after the last injection. Patients in group 2 who presented with the same criteria were submitted to a new injection four weeks after the last injection and a new laser treatment 12 weeks after the last session.

**Results:** Preliminary results showed the association between Bevacizumabe injections and Yellow Diode Micropulse Laser led to a decrease in the need for re-treatment compared with Bevacizumabe injections alone.

**Conclusion:** These results are promising as a viable way of decreasing treatment costs for patients diagnosed with DME.

**Keywords:** Diabetic Macular Edema; Micropulse Laser; Intravitreal injection.

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**(RE) RETINA AND VITREOUS**

113. FIRST (PRESENTING) AUTHOR (REQUIRED):
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**Name: Deise Fialho Costa**

**Service: (RE) RETINA AND VITREOUS**

**CEP Number: 04023-062**

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**Deadline: 10/2014**

FORMAT:

Abstract should contain:

**Title**
**Author, Co-authors (maximum 6), Purpose, Methods, Results, Conclusion.**

Poster guidelines:

5. ABSTRACT (REQUIRED):

**Title:** The application of different techniques and primers to detect T. gondii DNA in retinas from eye bank eyes.

**Author and Co-authors:** Deise F. Costa, Flávio D. A. Fowler, Alessandra G. Commodaro, Cristina Muccioli, Heloisa Nascimento and Rubens Belfort Jr.

**Purpose:** To show how different probes can lead to different results.

**Methods:** Thirty retinas from eye bank eyes from Joinville were collected and DNA extraction was performed. Two different techniques were used to detect T gondii DNA: Nested PCR and Real Time PCR (qPCR).

**Results:** The Nested PCR was performed at the National Eye Institute (NIH), Bethesda, Md, USA. We observed that the NTS2 primer was able to detect T gondii DNA in 87% of the retinas from Joinville, while the B1 primer was able to detect 46% and the GRA7 detected only 23%. The same retinas were studies using Real Time PCR at the Federal University of Sao Paulo and among the 30 retina samples, only 1 (0.3%) was qPCR positive using SAG1 primer.

**Conclusion:** These results demonstrate the importance to use different and adequate primers to have an accurate and specific diagnosis.

**Keywords:** PCR, Retinas, Toxoplasma gondii and Eye Bank.

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Review the Scientific Section Descriptions. Select and enter the two-letter Code for the one (1) Section best suited to review your abstract.

**Oncology and Pathology**

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FORMAT:

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**Title**
**Author, Co-authors (maximum 6), Purpose, Methods, Results, Conclusion.**

Poster guidelines:
**90cm x 120cm**

114. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

**Name: Alexandre Gomes Bortoloti de Azevedo**

**Service: Oncology and Pathology**

**CEP Number: 526077**

5. ABSTRACT (REQUIRED):

**Title:** Clinical features of consective patients with retinoblastoma treated in GRAAC/Unifesp.

**Author and Co-authors:** Azevedo, G.B.A.;Teixeira, L.F.

**Purpose:** To evaluate the clinical features and epidemiology of patients with retinoblastoma treated at a reference hospital in Sao Paulo.

**Methods:** Retrospective review of 217 eyes of 166 consecutive patients with intraocular retinoblastoma.

**Results:** The mean age at diagnosis was 36,16 months (n=166), 16,6 months for bilateral disease (n=51) , 44,83 months for unilateral cases (n=166) . Gender distribution: 84 male (50,60%) and 82 female . 11 (9,48%) had family history of Retinoblastoma (RB). The most common presentation was leucocoria: 117 patients (70,4%) , followed by strabismus in 30 patients (18,07%) , 10 presented as red eye (6,02%) , 3 patients as Buftalmus (1,80%) , 2 as floaters (1,20%) , 2 came to our service due to family history while assimptomatic (1,20%); 1 presented as visual acuity loss ; 1 case presented as phitisis bulbi (0,60% ).
Most commonly the disease was noticed by mothers in 119 of 166 patients (71,6%) , 15 by the fathers (9,0%) , 10 by grandparents (6,0%) , 9 by uncles or aunts (5,4%) , 4 by the pediatrician (2,4%) , 3 noticed by the patients themselves (3,6%), 2 by ophthalmologists (1,2%) , 2 had no complaint and were brought due to family history , 1 was noticed by other children , and 1 by the baby sitter. Of the 217 eyes, following the ICIRB staging, 116 were E group eyes (53,4%) ; 53 D (24,4%) , 22 B (10,1%) , 17 C (7,8%) , and 9 A (4,1%) . 112 eyes were submitted to Primary enucleation (51,6%), [10 group D eyes and 102 group E] . Primary systemic chemotherapy and/or local therapy were performed in 105 eyes (46%), (9 group A, 22 group B, 17 group C, 43 group D and 14 group E) . For major tumor recurrence we used external beam radiotherapy (EBRT) . The eye salvage rates were : 100% for group A(9/9 ), 95,4% for group B(21/22), 88,2% for group C(15/17), 39,62% for group D(21/53) and 3,4% for group E(4/116). The total eye salvage was 32,2 % (70/217).

**Conclusion:** Our average age at diagnosis is substantially higher than the observed in developed countries and may justify our high rates of group D/E staging group , with poorer outcomes since advanced intraocular disease (D & E ) account more than 70% of our sample. Improving educational policies focused in mothers and the most common signs of RB may help achieving earlier diagnosis and better outcomes.

**Keywords:** Retinoblastoma , epidemiology

# E-MAILS

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