



# 18<sup>th</sup> RESEARCH DAYS

Postgraduate Program in  
Ophthalmology & Visual Sciences

 **DECEMBER, 8 - 9 | 2016**

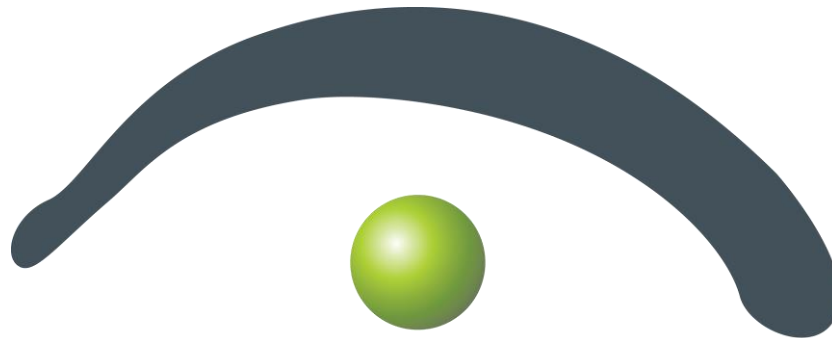
Organization



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# **18<sup>th</sup>** RESEARCH **DAYS**

## **UNIFESP-EPM December 08 and 09 | 2016**

The meeting **Research Days | UNIFESP-EPM** is held annually since 1999 and aims to stimulate and improve scientific production at the **Department of Ophthalmology & Visual Sciences | Paulista School of Medicine | Federal University of Sao Paulo - UNIFESP**. **Research Days** 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. Best scientific work in each category can be awarded.

An active participation of the faculty as discussants and the participation of well-known investigators in the scientific program are encouraged. Registration is free and open to Postgraduate programs in Brazil and Latin America. We consider the presentations of our team of students at Research Days as a first step to prepare an abstract for submission to international research meetings as the Annual Meeting of the Association for Research in Vision and Ophthalmology (ARVO).

The **18th Research Days | UNIFESP-EPM** will be held in São Paulo from December 8 to 9, 2016. Please visit our homepage <http://www.ofthalmounifesp.com.br/pg/mda/?p=526> for the Scientific Program.

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### Information

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Federal University of São Paulo  
Rua Botucatu 821, 1<sup>st</sup> floor – São Paulo, SP, Brazil  
Phone - Fax: (+55-11) 5576-4981**

## ORGANIZATION

### Postgraduate Program Coordination

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Denise de Freitas

### Program Directors

---

Adriana Berezovsky

Norma Allemann

Solange Rios Salomão

### Scientific Committee

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Adriana Berezovsky

Ana Luisa Hofling de Lima Farah

Augusto Paranhos Jr.

Cristina Muccioli

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Eduardo Büchelle Rodrigues

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Tiago dos Santos Prata

Wallace Chamon

Walton Nosé

### Oral Presentation Awards Committee

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Luiz Alberto Soares de Melo Júnior

Filipe Oliveira

### Poster Presentation Awards Committee

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Priscila Cristovam Colombo

Sung Eun Song Watanabe

Adimara Renesto Candelária

### Invited Speakers

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**Luciana Palombini, MD**

Instituto do Sono, UNIFESP – Federal University of São Paulo, Brazil

**Flávio Paranhos, MD, PhD**

National Council of Ethics in Research – CONEP, Brazil

SCIENTIFIC PROGRAM

December 08, 2016 - Thursday

8:00-8:05 AM	OPENING REMARKS	Ana Luisa Hofling-Lima	
8:05-8:15 AM	POSTGRADUATE PROGRAM	Denise de Freitas	
8:15-8:20 AM	PROGRAM HEADLINES	Adriana Berezovsky Solange Salomão Norma Allemann	
<b>SESSION 1</b>		<b>PAPER PRESENTATION</b>	
8:20 AM 9:15 AM	<b>ELECTROPHYSIOLOGY, EPIDEMIOLOGY</b> Moderators: Solange Rios Salomão, Adriana Berezovsky		
8:20-8:27 AM	Gender differences in transient pattern reversal and flash visually evoked potentials In healthy adults	Patrícia de Freitas Dotto	PG1
8:30-8:37 AM	Pattern-reversal visual evoked potentials As a diagnostic tool for ocular malingering	Tarciana de Souza Soares	PG1
8:40-8:47 AM	Retinoblastoma in the United States: a 40-years incidence and survival analysis	Arthur Gustavo Fernandes	PG1
8:50-8:57 AM	Spectacle coverage in older adults from Parintins: The Brazilian Amazon Region Eye Survey (Bares)	Galton Carvalho Vasconcelos	PÓS-DOC
9:00-9:07 AM	Prevalence and outcomes of cataract surgery: The Brazilian Amazon Region Eye Survey (Bares)	Sung Eun Song Watanabe	PÓS-DOC
9:10-9:13 AM	Study design and methods for a population-based study on the prevalence and causes of vision impairment and blindness: The Brazilian Amazon Region Eye Survey (Bares)	Marcos Jacob Cohen	PG0
<b>SESSION 2</b>		<b>PAPER PRESENTATION</b>	
9:20-10:40 AM	<b>LOW VISION, STRABISMUS, LACRIMAL SYSTEM, UVEITIS</b> Moderators: Norma Allemann, Cristina Muccioli, Rubens Belfort Jr		
9:20-9:27 AM	Influence of head posture on the visual acuity of children with nystagmus	Ana Carla Ramos Vieira Da Costa	PG1
9:30-9:37 AM	Intermittent exotropia surgery: results in different age groups	Dayane Christine Issaho	PG1
9:40-9:47 AM	Accuracy of OCT measurements of extraocular rectus muscle insertions in strabismus Surgery	Julia Dutra Rossetto	PG1
9:50-9:57 AM	Immunohistochemical analysis and area measurement after bupivacaine injection in the rabbit extra ocular muscle	Luisa Moreira Hopker	PG1
10:00-10:07 AM	Interferon-gamma release assay (Igra) and ocular tuberculosis: implications for the diagnosis and management of tuberculosis-related ocular inflammation: preliminary results	Luciana Peixoto Finamór	PÓS-DOC
10:10-10:17 AM	Frequency of Toxoplasma gondii in eye banks retinas	Deise Fialho da Costa	PG1
10:20-10:27 AM	Serological survey of toxoplasmosis associated with ophthalmologic examination in patients with schizophrenia	Fábio Barreto Moraes	PG1
10:30-10:37 AM	Differences in the approach of brazilian experts to diagnosis and treatment of tuberculous uveitis	Yuslay Fernández Zamora	PG1
10:40-10:47 AM	Lacrimal recanalizer recanalization of the nasolacrimal duct (RNLD) with high frequency	Eduardo Alonso Garcia	PG1

10:50-11:10 AM	<b>COFFEE BREAK</b>		
11:10-11:30 AM	<b>INVITED LECTURE</b> Title: Sleep Apnea	Luciana Palombini, MD Instituto do Sono, São Paulo, Brasil	
11:30 AM - 12:30 PM	<b>POSTER SESSION 1</b> Oculoplastics Surgery (01), Uveitis (06), Strabismus (02), Ultrasound (01), Epidemiology (01), Lacrimal System (01)		
12:30-1:30 PM	<b>LUNCH BREAK</b>		
<b>SESSION 3</b>	<b>PAPER PRESENTATION</b>		
1:30-2:55 PM	<b>RETINA AND VITREOUS, PHARMACOLOGY</b> Moderators: Maurício Maia, Juliana Sallum, Michel Eid Farah		
1:30-1:37 PM	Risk factors associated with the ophthalmoscopic findings identified in infants with presumed Zika virus congenital infection	Camila V. Oliveira Carvalho Ventura	PG1
1:40-1:47 PM	Total eye allotransplant: present challenges and experimental rabbit surgical model	Emmerson Badaró Cardoso	PÓS-DOC
1:50-1:57 PM	Patient pain during intravitreal injections under topical anesthesia: A systematic review	Helio Franisco Shiroma	PG1
2:00-2:07 PM	Does microperimetry have a prognostic value in central serous chorioretinopathy?	Luiz Roisman	PG1
2:10-2:17 PM	Segregation analysis in Stargardt patients families: Investigation of complex allele in Abca4 gene	Mariana Vallim Salles	PG1
2:20-2:23 PM	Preclinical investigation of the safety of intravitreal curcumin	Thais Sousa Mendes	PG0
2:25-2:28 PM	Optical coherence tomography findings in spinocerebellar ataxias types 2 and 3	Bruna Ferraço Marinelli	Fellow
2:30-2:33 PM	Anthocyanin analysis in a novel vital Dye extracted from the Açai fruit (Euterpe oleracea) for chromovitrectomy	Cristiane Siqueira Peris	PG0
2:35-2:38 PM	Ocular abnormalities in mice following congenital Zika virus infection	Juliana Moura Bastos Prazeres	PG0
2:40-2:43 PM	Teleophthalmology support for primary care diagnosis and management	Elmar Torres Neto	PG0
2:50-3:10 PM	<b>COFFEE BREAK</b>		
<b>SESSION 4</b>	<b>PAPER PRESENTATION</b>		
3:10-4:15 PM	<b>RETINA AND VITREOUS, ULTRASOUND, TUMORS</b> Moderators: Michel Eid Farah, Eduardo Büchelle Rodrigues, Norma Allemann		
3:10-3:17 PM	Preclinical study of anti-inflammatory agents delivered to the eye via episcleral implant	Luiz Henrique Soares Gonçalves Lima	PÓS-DOC
3:20-3:27 PM	Surgical management of macular hole with 2 years of follow-up	Oswaldo F. M. Brasil do Amaral	PG1
3:30-3:37 PM	Stem cell derived therapy for Stargardt's disease: A phase I/II trial	Rodrigo A. Brandt Fernandes	PG1
3:40-3:47 PM	Optical coherence tomography angiography for iris vasculature imaging	Claudio Maurício Zett Lobos	PG1



## *Postgraduate Program in Ophthalmology & Visual Sciences*

3:50-3:53 PM	Eye growth and refractive errors in preterm with and without retinopathy of prematurity	Ricardo Salles Cauduro	PGO
3:55-3:58 PM	Automated diagnostic test for diabetic retinopathy in mass screening	Felipe Ladeia Muiños de Andrade	PGO
4:00-4:03 PM	Incidence of anterior segment neovascularization during intravitreal treatment for macular edema after central retinal vein occlusion	Luiz Filipe Adami Lucatto	PGO
4:05-4:08 PM	Panretinal photocoagulation with 577nm multispot vs 532nm single-spot laser for diabetic retinopathy: A clinical trial	Renato Magalhães Passos	PGO
4:10-4:13 PM	Eyelid tumors over 13-years at Latin America's highest volume ocular Oncology Reference Center in Sao Paulo, Brazil	Caroline Franco Machado	Fellow
4:15-4:18 PM	Indications for eye removal over a 13-year period at a Latin America's highest volume ophthalmology referral center in Sao Paulo, Brazil	Renato Sant Ana Albuquerque	Fellow
<b>4:20- 5:20 PM</b>	<b>POSTER SESSION 2</b>		
	<b>Retina and Vitreous (08)</b>		
<b>5:30 PM</b>	<b>END OF SESSION</b>		



SCIENTIFIC PROGRAM

December 09, 2016 - Friday

**SESSION 5 PAPER PRESENTATION**

**8:00-9:15 AM CORNEA AND EXTERNAL DISEASES, LABORATORY**

**Moderators: Ana Luisa Hofling-Lima, Fabio Ramos de Carvalho, Denise de Freitas, Luciene Barbosa de Sousa**

8:00-8:07 AM	Potential contamination of drops when eyedrops are instilled in different positions	Alexandre Xavier da Costa	PG1
8:10-8:17 AM	Evaluation of the effects of fast crosslinking on keratocytes cultured in 3D model	Joyce Luciana Covre	PG1
8:20-8:27 AM	Tear inflammatory mediators in patients with keratoconus. A pilot study	Gustavo Souza Moura	PG1
8:30-8:37 AM	Comparison of Descemet membrane endothelial keratoplasty pressurizing and without pressurizing the anterior chamber with an air bubble	Nicolas Cesário Pereira	PG1
8:40-8:47 AM	Patients with multiple sclerosis demonstrate reduced subbasal corneal nerve fiber density	Rodrigo Thiesen Müller	PG1
8:50-8:57 AM	Vision-related quality of life in patients with ocular graft-versus-host disease	Túlio Batista Abud	PG1
9:00-9:07 AM	Molecular typing and antimicrobial resistance of ocular methicillin-resistant Staphylococcus aureus	Katiane Santin	PG1
9:10-9:17 AM	Dermatological alterations in dry eye disease	Rossen Mihaylov Hazarbassanov	PÓS-DOC
9:20-9:23 AM	Evaluation of conjunctival bacterial flora in patients with Stevens-Johnson syndrome	Luciana Frizon	PG0
9:25-9:28 AM	Comparison of deep anterior lamellar and penetrating keratoplasty for the treatment of keratoconus at Hospital Sao Paulo in 2014	Geraldo Andrade Marques	Fellow

**SESSION 6 PAPER PRESENTATION**

**9:30-10:15 AM**

**REFRACTIVE SURGERY, BIOENGINEERING AND CATARACT**

**Moderators: Paulo Schor, Wallace Chamon, Walton Nosé, Mauro Campos, Renato Ambrósio Junior**

9:20-9:27 AM	Artificial intelligence application's to detect corneal ectasia	Bernardo Teixeira Lopes	PG1
9:30-9:37 AM	In-vivo analysis of corneal biomechanics using optical coherence elastography: a pilot study	Vinicius Silbiger de Stefano	PG1
9:40-9:47 AM	Comparison of biometry and intraocular lens power calculation performed by a new optical biometry device and a reference biometer	Bruna Vieira Oliveira Ventura	PG1
9:50-9:57 AM	How design, font size and linguistic aspects influence gaze patterns in skilled readers	Emanuela Cristina R. Gonçalves	PG1
10:00-10:03 AM	Multisensory eyedrop bottle sleeves to help patients with visual impairment	Ana Luiza Fontes de Azevedo Costa	PG0

**10:10-10:30 AM COFFEE BREAK**

**10:30-11:55 AM POSTER - SESSION 3**

**Refractive Surgery (04), Cataract (01), Cornea and External Diseases (09), Bioengineering (03), Refraction-Contact Lens (01)**

**SESSION 7 PAPER PRESENTATION GLAUCOMA AND EPIDEMIOLOGY**



**1:30-3:30 PM** Moderators: Augusto Paranhos Jr., Paulo Augusto Arruda Mello, Luiz Alberto Soares de Melo Júnior, Ivan Maynard Tavares, Tiago dos Santos Prata

**1:30-1:50 PM** INVITED LECTURE

1:50-1:57 PM Rebound tonometry versus Goldmann tonometry in school children: Bruno Leonardo B. Esporcatte PG1  
feasibility and agreement of intraocular pressure measurements

2:00-2:07 PM Using pre-laminar neural tissue based indices for glaucoma Flávio Siqueira Santos Lopes PG1  
assessment

2:10-2:17 PM Presbyopia and near vision impairment in older adults from Parintins: Cristina C. Coimbra Cunha PG1  
The Brazilian Amazon Region Eye Survey (Bares)

2:20-2:23 PM Visual impairment and blindness in very elderly residents of Maues, Claudia Osório Chaves PG0  
Amazonas

**2:30-2:50 PM** INVITED LECTURE **Flávio Paranhos, MD, PhD**  
**Theory and Practice of Ethics in Research** **Goiânia, Brazil**

2:50-3:00 PM Q&A

**3:00-3:20 PM** INVITED LECTURE

3:20-3:30 PM Q&A

**3:30-3:50 PM** COFFEE BREAK

**3:50-4:50 PM** POSTER - SESSION 4  
**Glaucoma (12), Neurophthalmology (02)**

**4:50-5:50 PM** DRAWINGS | AWARDS COMMITTEE EVALUATION  
*Awards Committee*

**5:50-6:00 PM** FINAL REMARKS AND AWARDS ANNOUNCEMENT  
*Denise de Freitas*

**6:00 PM** ADJOURN  
*Organizing Committee*

POSTERS

December 08, 2016 - Thursday

11:30AM POSTER - SESSION 1

12:30PM

Oculoplastics Surgery (01), Uveitis (06), Strabismus (02), Ultrasound (01), Epidemiology (01), Lacrimal System (01)

Clinical and histopathological evaluation of fractional carbon dioxide laser resurfacing for the treatment of periocular photoaging	Juliana de Filippi Sartori	PG1
OCT angiography - new insights into an ocular syphilis outbreak in Brazil	Isabel Moreira Borelli	R2
Outcomes after pars plana vitrectomy for retinal detachment associated with toxoplasmosis	Camila Amaral Carvalho Cunha	Fellow
Use of biologic agents in the treatment of noninfectious chronic uveitis in the adult population	Daniele Soares Dalbem	Fellow
Incidence of intraocular lesions in adequately treated up to two years old patients with risk of acquired syphilis during gestation evaluated during the year 2016	Gileade Oliveira Silva	Fellow
Quality of life and psychosocial aspects in patients with ocular toxoplasmosis	Isabela Monteiro Ribeiro	Fellow
Effects of transcleral diode laser cyclophotocoagulation in the treatment of uveitic glaucoma	Renan Braido Dias	Fellow
Prevalence of strabismus following insertion of the Ahmed fp7 compared with the Ahmed fp8 implants in pediatric patients	Cristiano dos Santos Correia	Fellow
Smartphone based refractor (Eyenetra) compared to auto-refractor in adults	Sophia Vicenzi Zanatta Valentini	Fellow
Measurement of cornea opacity using different imaging methods	Patricia Novita Garcia	PG1
Quality of life in individuals with diabetic retinopathy: the utility project	Felipe Marques de Carvalho Taguchi	R2
Case report: bilateral external dacryocystorhinostomy in an infant	Sabrina Jisun Myung Cho	R1

4:15- 5:15 PM POSTER SESSION 2

Retina and Vitreous (10)

Structural and functional evolution in diabetes mellitus: a choroidal analysis	Felipe Pereira	R3
Panretinal photocoagulation with 577nm multispot vs 532nm single-spot laser for diabetic retinopathy: a clinical trial	José Belúcio Neto	R3
Choroidal thickness measurement in patients with ulcerative colitis using swept source optic coherence tomography imaging	Marina Lourenço de Conti	R2
Structural and functional evolution in diabetes mellitus: analysis from retinal layers	Müller Gonçalves Urias	R3
Case report of Susac's syndrome: a challenging diagnosis	Murilo Ubukata Polizelli	R1
Swept source optic coherence tomography measurement of choroidal thickness and optical clinical evaluation of patients with Crohn's disease	Nikoly Tigani Fares	R2
A novel vital dye extracted from the acai fruit (Euterpe oleracea) for chromovitrectomy in humans: a phase I trial	Rafael Ramos Caiado	PG1
577nm micropulse laser as adjunctive therapy to intravitreal bevacizumab for diabetic macular edema	Vinicius Campos Bergamo	R2
Efficacy of antiangiogenic drugs derived from heparin mimetic in animal models of choroidal angiogenesis	Vinicius Ferreira Kniggendorf	PG1
Evaluation of retinal vascularization in children with portal hypertension	Vitor Kazuo Lotto Takahashi	Fellow

POSTERS

December 09, 2016 - Friday

**10:30-11:55 AM POSTER - SESSION 3**

**Refractive Surgery (04), Cataract (01), Cornea and External Diseases (09), Bioengineering (03), Refraction-Contact Lens (01)**

Correlation of ocular measurements in individuals submitted to phakic intraocular lens implantation	Fábio Kenji Matsumoto	R3
Aberrometry changes in eyes with central keratoconus implanted with intrastromal corneal ring segment arc 340°	Mikael Kwang Chul Chun	R3
Outcomes evaluation of two asymmetrical intracorneal ring segments implants of 160 in patients with inferior asymmetric keratoconus and high corneal astigmatism	Murilo Bertazzo Peres	R3
Biometry changes in eyes	Renata Cavalcanti Portela	R2
Exfoliation syndrome	Natalia Mussi	PG0
Paecilomyces keratitis: a challenging infection	Aline Couto Carneiro	R2
Evaluation of corneal changes induced by scleral contact lenses	Cristina Cagliari	R4
Artificial cornea (KeraClear) implant assisted by femtosecond laser in eyes with corneal blindness	Fernanda Machado Bezerra	R4
Photodynamic therapy for the treatment of severe progressive infectious keratitis and associated corneal melt	Isa Maria Bastos Mendes Silva	R4
Quality of life in individuals with keratoconus: the utility project	José Aparecido Job Neto	R1
Goblet cells density after use of topical immunomodulator in the treatment of patients with dry eye disease	José Arthur Pinto Milhomens	PIBIC
Corneal and quality of life analysis in individuals with keratoconus grade II submitted to sequential and/or simultaneous treatments of intrastromal ring and crosslinking	Pablo Felipe Rodrigues	PG1
Analysis of cytokines and growth factors secreted by corneal limbal stem cells and action in the modulation of epithelial wound healing in vitro and in vivo	Renata Ruoco Loureiro	PG1
Ocular surface in patients with inflammatory bowel disease	Renata Tiemi Kato	R3
Philosophy of technology in healthcare: critic of the technologic reason	Marlon Ribeiro Da Silva	PG1
Teaching ophthalmology to humans and machines	Thiago Gonçalves S. Martins	PG1
Artificial intraocular lens support device	Victor Dias Bergamasco	PG1
Measurement of visual acuity based on a smartphone application	Daniel Assad Diniz da Gama	R2

**3:50-4:50 PM POSTER - SESSION 4**

**Glaucoma (12), Neurophthalmology (02)**

The impact of filtering surgeries on quality of life of children with primary congenital glaucoma	Andrea Oliveira Silva	Fellow
Skin and eye thermography	Daniel Augusto Ghiraldini Vieira	R3
Comparison of long and short-term intraocular pressure fluctuation patterns in patients with stable glaucoma: Is there a role for the use of the water-drinking test in these cases?	Fabricio Rodrigues de Andrade	R2
Two types of scotoma in a single eye on a Humphrey visual field: a case report	Fernando Meister Martins	R1
Case report: Exfoliation syndrome in a black patient in Latin America	Guilherme Eiichi da S Takitani	R1
New considerations on the role of lamina cribrosa and choroid in glaucoma	Julia Corradi de Faria Andrade	PG0
Childhood glaucoma patients ocular surface analysis: comparing traditional clinical methods with Keratograph 5M	Letícia Sant'Ana Cardoso da Silva	R3



## *Postgraduate Program in Ophthalmology & Visual Sciences*

Cellularity comparison in patients with closable angles undergoing laser iridotomy with pilocarpine or light in the contralateral eye	Luis Filipe Nakayama	R2
Surgical outcomes of a small incision limbus-based revision for failed trabeculectomies	Marcos Paulo Suehiro Dantas	R3
Intraocular pressure comparison in patients with closable angles undergoing laser iridotomy with pilocarpine or light in the contralateral eye	Mariana Kawamuro	R1
Ocular surface analysis of children with glaucoma	Marina Paes Leme Mothé Neder	R3
Evaluation of intracameral drainage implant position in pediatric glaucoma by anterior segment optical coherence tomography	Veronica Haysa Yamada	R2
Analysis and application of Hodapp-Parrish-Anderson criteria in standard automated perimetry tests of idiopathic intracranial hypertension subjects	Bruno Mauricio Rodrigues de Oliveira	R1
Evaluation of tonometric measurements in idiopathic intracranial hypertension patients who underwent a lumbar puncture	Elaine Regina Sato Watanabe	R1

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.

**(EF) ELECTROPHYSIOLOGY**

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: 11/2016

**FORMAT:**

Abstract should contain:

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

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

1. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Patrícia de Freitas Dotto

**e-mail:** patdotto@gmail.com

**Service:** (EF) ELECTROPHYSIOLOGY

**CEP Number:** 30972314

5. ABSTRACT (REQUIRED):

**Title:** Gender differences in transient pattern reversal and flash visually evoked potentials in healthy adults

**Author and Co-authors:** Patricia de Freitas Dotto, M.D., Adriana Berezovsky, Ph.D., Paula Yuri Sacai, Ph.D., Daniel Martins Rocha, M.Sc., Solange Rios Salomao, Ph.D.

**Purpose:** To study gender differences in transient pattern-reversal (PR) and flash (F) visually evoked potentials (tVEP) in healthy adults.

**Methods:** Healthy adults (age 18-35, 18 years) were recruited among university employees and students. Inclusion criteria were: normal fundoscopy, tracking ability, stereopsis and pupillary reflexes, best corrected visual acuity 0.00 logMAR, refractive error (spherical equivalent) from -6.00 to +6.00. Exclusion criteria were: strabismus, nystagmus, previous intraocular surgery, systemic and/or neurological diseases. Binocular and monocular tests were performed according to International Society for Clinical Electrophysiology of Vision (ISCEV) standards for PR-VEP (reversal rate=1.9Hz, checkboard stimuli 15' and 60' at 100% contrast) and FVEP (3 cd/m<sup>2</sup>, rate=1.0 Hz). VEP parameters of amplitude (microvolts), peak times (milliseconds) were measured. Inter-ocular differences, inter-peak intervals (N75-N135) and binocular summation were determined.

**Results:** 54 subjects (26 males, mean age = 40.4±13.7 yrs, median = 40.0 yrs) were included. Women showed statistically faster peak time (mean=94.6 ms) and larger amplitudes (mean=12.8 ±6.1549, V) than men (mean = 97.4 ms, mean = 8.6±6.1472, ±6.1549, V) in pattern-reversal stimulation (15' checks). Similar results were found for FVEP N2-P2 amplitudes, P1 and N2 peak times. Inter-peak intervals for were statistically narrower for women compared with men.

**Conclusion:** Gender differences in tVEP were detected, with women disclosing faster conduction velocity in the visual pathway and larger responses than men. These findings are in line with gender-based anatomic features reported by fMRI studies. Based on these results, it is recommendable the use of gender normative values in the analysis of clinical tVEP data for diagnostic and therapeutic purposes.

**Keywords:** visually evoked potentials, gender, normative values, pattern reversal, flash VEP, visual pathways

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.

**(EF) ELECTROPHYSIOLOGY**

2. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (EF) ELECTROPHYSIOLOGY

**CEP Number:** 1763153

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**Purpose, Methods, Results,**  
**Conclusion.**

Poster guidelines:  
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5. ABSTRACT (REQUIRED):

**Title:** Pattern-reversal visual evoked potentials As a diagnostic tool for ocular malingering

**Author and Co-authors:** Tarciana de Souza Soares, Paula Yuri Sacai, Adriana Berezovsky, Daniel Martins Rocha, Sung Eun Song Watanabe, Solange Rios Salomão

**Purpose:** To investigate the contributions of transient pattern-reversal visual evoked potentials in the diagnosis of ocular malingering at a Brazilian university hospital.

**Methods:** Adult patients with suspected malingering in one or both eyes were referred for visual evoked potential testing. Data from patients's medical records were reviewed and analyzed retrospectively. Data analysis included the distance optotype visual acuity based on a ETDRS retro-illuminated chart and the transient pattern-reversal visual evoked potential parameters of latency (milliseconds) and amplitude (microvolts) for the P100 component, using checkerboards with visual subtenses of 15 and 60. Motivations for malingering were noted.

**Results:** The 20 subjects included 11 (55%) women. Patient ages ranged from 21 to 61 years (mean= 45.05 ± 11.76 years, median= 49 years). In 8 patients (6 women), both eyes exhibited reduced visual acuity with normal pattern-reversal visually evoked potential parameters (pure malingerers). The remaining 12 patients (7 men) exhibited reduced vision in only 1 eye, with simulated reduced vision in the contralateral eye (exaggerators). Financial motivation was noted in 18 patients (9 men).

**Conclusion:** Normal pattern-reversal visually evoked potential parameters with suspected ocular malingering were observed in a 20 patient cohort. This electrophysiological technique appeared to be useful as a measure of visual pathway integrity in this specific population.

**Keywords:** Evoked potentials, visual, Malingering, Pattern recognition, visual.

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**Service:** (EP) EPIDEMIOLOGY

**CEP Number:** 0

5. ABSTRACT (REQUIRED):

**Title:** Retinoblastoma in the United States: a 40-years incidence and survival analysis

**Author and Co-authors:** Arthur G. Fernandes Benjamin D. Pollock Felicia A. Rabito

**Purpose:** To determine the incidence of retinoblastoma in the United States over a 40-year period from 1973 to 2012 and characterize the overall survival of these patients, using existing databases.

**Methods:** Retinoblastoma cases were derived from the Surveillance, Epidemiology, and End Results (SEER) database in the United States from 1973 to 2012. Incidence rates were calculated per 1,000,000 children using the United States Census Bureau data as standard population. The significance of trend in the incidence rate over time was determined using the Chi-Square test, and 95% CIs were calculated. Hazard Ratios with 95% CIs were estimated for variables associated with mortality by using univariate and multivariate Cox regression models. Survival was calculated by the Kaplan Meyer method and compared among different levels of sex, age of diagnosis, race, origin, surgery procedure, and decade of diagnosis.

**Results:** An overall sample of 879 cases of retinoblastoma (49% males) was selected, representing 6.1% of all childhood cancers under age 9 years were eligible for this study. The annual incidence rate of retinoblastoma over the 40-years period was 12.14 (95% CI: 11.32, 12.96) cases per million children aged 0-4 years and 0.49 (95% CI: 0.36, 0.65) cases per million children aged 5-9 years. There was no significant trend over the 40-year period in the rate for 0-4 years old children ( $p=0.6324$ ) or 5-9 years old children ( $p=0.7695$ ). The 5-year overall survival was 90.8%, 92.5%, 97.6%, and 97.3% for increasing time periods (1973-1979, 1980-1989, 1990-1999, and 2000-2012, respectively;  $p=0.0017$ ). The 5-year overall survival was 92.5% for bilateral and 96.3% for unilateral cases ( $p=0.0116$ ). The 5-years overall survival was 97.6% for those diagnosed before 1 year of age, 92.7% for those diagnosed between 1 and 2 years old, 91.1% for those diagnosed between 2 and 3, and 96.4% for those diagnosed when older than 3 years ( $p=0.0136$ ).

**Conclusion:** The incidence rate of retinoblastoma in the United States has remained stable for the last 40 years. Survival analysis indicates a significant effect of laterality of tumor, age and decade of diagnosis. The development of new treatment therapies is associated to the improvement of survival, the early diagnosis is a determinant on survival, and unilateral cases are more likely to survive than bilateral cases.

**Keywords:** Epidemiology, Incidences, Survival, Retinoblastoma



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**CEP Number:** 11830313.

5. ABSTRACT (REQUIRED):

**Title:** Spectacle coverage in older adults from Parintins: The Brazilian Amazon Region Eye Survey (Bares)

**Author and Co-authors:** Galton C. Vasconcelos<sup>6</sup>, Nivea N. Cavascan, Adriana Berezovsky, Cristina C. Cunha, Sergio Munoz, Joao M. Furtado, Jacob M. Cohen, Marcos J. Cohen, Rubens Belfort<sup>1</sup>, Solange R. Salomao

**Purpose:** To estimate the spectacle coverage for distance and near in older adults from urban and rural areas of Parintins, Brazilian Amazon Region.

**Methods:** A population-based cross sectional study was conducted using cluster random sampling, to enumerate subjects 45 years of age and older from 20 clusters (14 urban and 6 rural). Eligible subjects were enumerated through a door-to-door household survey and invited to an examination site for visual acuity testing and eye exam. Uncorrected (UCVA), presenting (PVA) and best-corrected visual acuity (BCVA) were measured from each eye for distance and near. Glasses usage was noted. Subjects were classified as met need (those with VA 20/40 or worse in the better-vision eye without correction, but who achieved VA > 20/40 in the better-vision eye with their present spectacles) and unmet need (those with PVA 20/40 or worse in the better-vision eye and who do not have any glasses, but achieved BCVA > 20/40 or better in the better-vision eye). The spectacle coverage percentage was calculated as [met need/(met need+unmet need)] x100. Possible associations of spectacle wear with gender, age, education level and geographic residency location were investigated by multiple logistic regression.

**Results:** A total of 2383 eligible persons was enumerated, and 2042 (85.7%) were examined. In 1308 (64%) participants no glasses were used both for near and distance. For those 734 wearing glasses: 229 (11.2%) had glasses only for near, 483 (23.7%) had glasses for both near and distance, and 22 (1.1%) had glasses only for distance. Overall spectacle coverage was 40.7% for distance and 25.3% for near. Those living in rural areas had lower coverage for both near (18.1%) and distance (28.4%). Coverage for distance (24.5%) and near (20.1%) was lower for males and higher (73.8% for distance and 45.9% for near) for higher educational level. Distance glasses usage significantly increased with age, female gender and higher educational level and decreased in those living in rural areas. On the contrary, near glasses wear significantly increased with age, female gender and higher education level.

**Conclusion:** There was a low spectacle coverage, mainly, for near in this population. Risk groups are particularly males, those with lower educational levels and those living in rural areas. Cost-effective strategies to eliminate this easily treatable cause of visual impairment are warranted.

**Keywords:** blindness, visual impairment, spectacle, Amazon

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5. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (EP) EPIDEMIOLOGY

**CEP Number:** 214961

5. ABSTRACT (REQUIRED):

**Title:** Prevalence and outcomes of cataract surgery: The Brazilian Amazon Region Eye Survey (Bares)

**Author and Co-authors:** Sung E. S. Watanabe, Adriana Berezovsky, Sergio Munoz, Joao M Furtado, Marcos J Cohen, Paulo H Morales, Marcela Cypel, Jacob M Cohen, Rubens Belfort Jr., Solange R. Salomao

**Purpose:** Investigate the prevalence and visual acuity (VA) outcomes of cataract surgery in Parintins city, Brazilian Amazon Region

**Methods:** Cluster sampling based on geographically-defined census sectors was used in randomly selecting individuals &#8805;45 years of age for visual acuity measurement, refraction, and slit-lamp examination during 2014-2015. Participants were queried as to the year and place of previous cataract surgery. The surgical procedure and any evidence of surgical complications were recorded during the examination. The principal cause of visual impairment/blindness was identified for eyes presenting with VA <20/32

**Results:** A total of 2383 eligible persons were enumerated and 2042 (85.7%) were examined. A group of 176 persons had been submitted to cataract operation in one or both eyes (133 from urban areas and 43 from rural areas), representing a cataract surgery prevalence of 8.62% [95% C.I.:7.44-9.93] and a total of 275 eyes: 99 both eyes (79 urban and 20 rural) and 77 one eye (54 urban and 23 rural). Cataract surgery prevalence for urban areas was 11.27% [95% C.I.: 9.52-13.22] and for rural areas was 4.99% [95% C.I.: 3.64-6.67]. Surgical coverage among those with presenting visual impairment or blindness <20/40 in both eyes because of cataract was 31.8%. Higher schooling and urban area of residence were significantly associated with higher surgical coverage (p<0.01). Among 275 cataract-operated eyes, 43.3% presented with VA >20/40, 16.7% with VA 20/40 to 20/63, 19.3% with VA <20/63 to 20/200, and 20.7% with VA <20/200. With best-correction, the corresponding percentages were 59.3%, 10.0%, 13.3%, and 17.4%. Intra-ocular lenses were found in 92.3% of cataract-operated eyes, and 171 (62.2%) eyes had phacoemulsification. Next to refractive error, age-related macular degeneration and posterior capsule opacity were the main causes of vision impairment/blindness in operated eyes

**Conclusion:** The volume of cataract surgery in rural areas of Parintins city is low, with many remaining visually impaired/blind because of cataract. Refractive error and other causes of visual impairment amenable to treatment are common in cataract operated eyes from both urban and rural areas. Greater emphasis on the quality of visual acuity outcomes along with sustained government subsidy to provide access to cataract surgery is needed. ( só achei esse ultima frase meio longa mas não estou conseguindo muda-la talvez com essa pontuação ajude: Greater emphasis on the quality of visual acuity outcomes is needed, counting with sustained government subsidy to provide access to cataract surgery is valuable.

**Keywords:** Brazilian Amazon Region, cataract surgery, visual acuity,

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**Conclusion.**

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6. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (EP) EPIDEMIOLOGY

**CEP Number:** 69060085

5. ABSTRACT (REQUIRED):

**Title:** Study design and methods for a population-based study on the prevalence and causes of vision impairment and blindness: The Brazilian Amazon Region Eye Survey (Bares)

**Author and Co-authors:** Marcos J Cohen, Joao M. Furtado, Adriana Berezovsky, Nivea N. Cavascan, Paula Y Sacai, Jacob M Cohen, Rubens Belfort Jr., Solange R. Salomao

**Purpose:** To describe the study design, operational strategies, procedures, and baseline characteristics of the Brazilian Amazon Region Eye Survey (BARES), a population-based assessment of the prevalence and causes of distance and near visual impairment in older adults.

**Methods:** BARES is a population-based cross-sectional prospective study conducted from March 2014 to May 2015 in four visits to Parintins city. Participants were residents 45 years and older from 14 urban and 6 rural randomly selected clusters based on information from the 2010 census. A door-to-door interview was performed and household residents were listed along with information on their age, gender and schooling. Eligible participants were invited for an eye examination including measurement of distance and near visual acuity, automated and subjective refraction, intraocular pressure, detailed anterior and posterior segment examination with emphasis on previous cataract surgery and its possible complications, spectral domain ocular coherence tomography, anterior segment and fundus photos. Rural residents were tested with portable equipment available in a clinical basis assembled on a boat to allow access to those living on the margins of the Amazon river. Information on glasses usage, previous cataract surgery, self-reported diabetes and fundus exam in the last year were taken from each participant.

**Results:** In 9930 (5878 urban and 4052 rural) residents, 2383 individuals (1410 urban and 973 rural) were eligible and 2042 (1180 urban and 862 rural) had a clinical examination with a response rate of 85.7%. The majority of participants 1036 were female (50.7%), the average (standard deviation) age was 59.9 (11.2) years (60.2?11.2 for urban and 59.5?11.1 for rural), 1357 (66.5%) had primary schooling or less (57.8% in urban and 78.3% in rural) and 57.8% were of residents of urban areas. The age distribution between genders was similar (p=0.178). Both gender and age distributions of the current sample were comparable to that of the Brazilian Amazon Region.

**Conclusion:** BARES has recruited Brazilian Amazonians 45 and older for an ophthalmic epidemiologic study. The BARES cohort will provide information about the prevalence and causes of near and distance vision in this underprivileged and remote population in Brazil.

**Keywords:** Amazon; vision impairment; blindness;

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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7. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (LV) LOW VISION

**CEP Number:** UNISA8210

5. ABSTRACT (REQUIRED):

**Title:** Influence of head posture on the visual acuity of children with nystagmus

**Author and Co-authors:** Ana Carla Ramos Vieira da Costa, Marcia Caires Bestilleiro Lopes, Celia Regina Nakanami

**Purpose:** Evaluate the relationship between the postural alignment of the head and possible interference in the functional view of children.

**Methods:** Eleven children between 2 and 7 years old (mean 4.3 ± 1.4) with nystagmus and null head positions were evaluated. Without neuropsychomotor development and other associated systemic diseases. The psychophysical test Lea Grating Acuity Test was applied to measure the functional vision (cpcm) in two stages, with and without postural alignment of the head. For quantitative analysis of the head alignment we use the Physiologic software, the highlighted points were defined and the angles formed between the anatomical points on the trunk and the vertical position of the head were recorded for comparison between the two test situations, and therefore improving data validity.

**Results:** Three of the 11 children detected all discs in the nystagmus null position. However, they detected only 2 discs after the correct postural alignment of the head. In addition, three children detected 3 discs in the nystagmus null position, but only 1 disc after the alignment of the head. Three children detected 3 discs in the null position and later detected only 2 discs after the alignment of the head. Two children detected the same number of discs in the nystagmus null position and the alignment of the head. One child detected all discs in both head postures and another detected 2 discs in both postures. There was a significant difference between the two conditions, with a Z score of -2.76 and a p value of 0.006\* (p<0.05), indicating that the children detected more discs in the null position than in the correct alignment of the head.

**Conclusion:** This study assessed the influence of the postural alignment of the head on functional vision in children with nystagmus. We observed that postural physiological alignment of the head had a negative effect on visual performance in children with nystagmus.

**Keywords:** Posture, Ocular motility disorders, Nystagmus, Visual acuity, Visual Stimulation.

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**Conclusion.**

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**Service:** (ST) STRABISMUS

**CEP Number:** 0

5. ABSTRACT (REQUIRED):

**Title:** Intermittent exotropia surgery: results in different age groups

**Author and Co-authors:** Dayane Cristine Issaho, Serena Xiaohong, Wang David and Robert Weakley Jr.

**Purpose:** Purpose: To report the outcomes in patients undergoing surgical correction of intermittent exotropia and compare age at surgery to motor and sensory success.

**Methods:** Design: cohort. Subjects: patients with intermittent exotropia undergoing surgical correction. Methods: The results of 136 patients with intermitent exotropia treated with surgery in a 4-year-period were reviewed. Patients were divided into two groups based on age at first surgery (less than 4 years old vs. 4 years of age or older) and compared. Main outcome measures: postoperative motor and sensory outcomes.

**Results:** Results: The mean age at surgery was  $6.8 \pm 2.6$  years. The reoperation rate for the patients operated before 4 years of age was 48% versus 42% for the ones operated later (p 0.93). Postoperative stereopsis showed an inverse linear association with age at surgery. For each month younger at the time of surgery, there was a 0.69 sec of arc worsening at the Titmus test. On the other hand, we found no correlation between the immediate postoperative alignment in the first week and sensory outcome at the last visit, when we separately analyzed the patients that had the first postoperative alignment as esotropic vs. orthophoric/exotropic.

**Conclusion:** Patients with intermittent exotropia can be operated upon safely under 4 years of age and may even present better motor results than older patients. Postoperative stereo acuity in younger children revealed to be worse, but unlikely due to inadequate age at surgery but rather immaturity to perform the stereopsis test.

**Keywords:** intermittent exotropia, strabismus surgery, stereopsis



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9. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (ST) STRABISMUS

**CEP Number:** 777128

5. ABSTRACT (REQUIRED):

**Title:** Accuracy of OCT measurements of extraocular rectus muscle insertions in strabismus Surgery

**Author and Co-authors:** Julia D Rossetto, Kara M Cavuoto, Craig A McKeown, Hilda Capo, Norma Allemann.

**Purpose:** To assess the accuracy of anterior segment optical coherence tomography (AS-OCT) in measuring the distance of the extraocular muscle (EOM) insertion to the limbus to improve preoperative assessment of adult patients undergoing primary or repeat strabismus surgery.

**Methods:** A single masked, prospective, cohort study in 74 adult patients (>18 years old) scheduled for strabismus surgery on horizontal and/or vertical rectus muscles. The distance between the EOM insertion and the limbus (in millimeters) was measured preoperatively with AS-OCT. The value was compared to the intraoperative measurement obtained with calipers. A difference of &#8804; 1 millimeter was considered "clinically acceptable". Additional measurements were obtained, including the distance from the limbus to anterior chamber angle with AS-OCT and the axial length of the eye with IOLMaster.

**Results:** A total of 144 muscles were analyzed, including 31 reoperated muscles. AS-OCT measurements were within 1 mm of intraoperative measurements in 76.7% of the muscles. The accuracy was higher for muscles with no prior surgery (82.8%), as compared to re-operated muscles (56.6%).

**Conclusion:** Optical coherence tomography (OCT) is an accurate method for assessing the distance between the limbus and the insertion of the rectus muscles when evaluating all patients together and patients undergoing primary surgery. However, it is not accurate in the assessment of muscles with previous strabismus surgery. The intraoperative measure performed before the detachment of the muscle's tendon and the use of limbus as a reference point in the OCT proved to be suitable for performing the measurements. No relationship was found between the axial length and the distance between the limbus and the anterior chamber angle.

**Keywords:** Extraocular muscles, optical coherence tomography, limbus to insertion distance.

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10. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**CEP Number:** 882803

5. ABSTRACT (REQUIRED):

**Title:** Immunohistochemical analysis and area measurement after bupivacaine injection in the rabbit extra ocular muscle

**Author and Co-authors:** Luisa Moreira Hopker, Juliana Neves, Daiane Nascimento, Tomas Mendonça, Edmar Zanotelli, Norma Allemann

**Purpose:** It has been demonstrated that Bupivacaine causes an increase in size and contractility when injected in extra ocular muscles (EOM). This study aims to show the area of the fibers and distribution of myosin subtypes after injection of Bupivacaine on the extra ocular muscle of rabbits.

**Methods:** Forty rabbits were selected. Eight rabbits were controls. Thirty-two rabbits received 0.3 ml of Bupivacaine 1.5% in the superior rectus (SR) of right eye (OD) and were sacrificed at 7, 28,60 and 92 days. SR of OD were excised and frozen. Haematoxylin and Eosin stain was performed to analyse the fiber area. Image J program was used to measure cross-sectional area of fibers. Immunohistochemistry was performed to analyze myosin types 1 (slow), 2 (fast) and embryonic. Cross sections of each muscle were analyzed for myosin count by manual tracing.

**Results:** There was a difference between groups 7-day vs 60-day (p=0,002), 7-day vs 92 day(p=0,012) and 28-day vs 60-day (p=0,043), showing a trend of initial decrease of fiber area followed by recovery of its size similar to control. Myosin type 1 was increased in the 60-day group when compared to Control (p=0,005), 7-day (p=0,002) and 92-day (p=0,005) groups. There was no change in myosin type 2. There was a decrease in Embryonic myosin in the 60-day group when compared to control (p=0,011), 7-day (p=0,003) and 92-day (p=0,003) groups.

**Conclusion:** Bupivacaine, when injected in the SR of rabbit decreases the area of the fibers around 7 days after the injection, probably due to necrosis followed by recovery of its initial size. It also increases the proportion of type 1 myosin and decreases the embryonic myosin at 60-days after the injection followed by normalization of it.

The change in expression of myosin type 1, 2 and embryonic might play a role in the contractile properties of extra ocular muscles after Bupivacaine injection. There is a transient increase in the fiber area and in the proportion of myosin type 1 in rabbits that could explain the increase in EOM force observed in patients injected with Bupivacaine.

**Keywords:** Bupivacaine, extraocular muscle,



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11. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**CEP Number:** 4622031

5. ABSTRACT (REQUIRED):

**Title:** Interferon-gamma release assay (Igra) and ocular tuberculosis: implications for the diagnosis and management of tuberculosis-related ocular inflammation: preliminary results

**Author and Co-authors:** Luciana Peixoto Finamor, Yuslay Fernandez, Denise Rodrigues, Ricardo P Casaroli-Marano, Cristina Muccioli.

**Purpose:** To evaluate the various clinical features and management of presumed ocular tuberculosis (TB) and new approaches in diagnosis, such as Interferon-Gamma Release Assay (IGRA).

**Methods:** Prospective ongoing research consisting in the analysis of the diagnostic value of IGRA test to confirm the diagnosis of ocular TB disease. The clinical findings of ocular disease will also be evaluated.

**Results:** So far, we present a total of 36 patients with presumed ocular tuberculosis undergoing specific treatment. Ninety one percent (91%) of the cases show positive IGRA test. Tuberculin Skin Test (TST) was 10mm or higher in 91% of the cases. Eight percent (8%) of the cases (3/36) presented with positive IGRA test, in spite of negative TST (<10 mm) and has being treated as tuberculosis. Thirty six percent (36%) of the cases had TST values between 10-15mm. Mean TST value was 17 mm, range 1 to 32.

Regarding ocular inflammatory findings, retinochoroiditis or choroiditis were the main findings, observed in 36% of the cases. Other findings were: diffuse uveitis and/or vasculitis in 25%, scleritis (22%), anterior uveitis (14%) and interstitial keratitis (3%).

**Conclusion:** Although the current gold standard for Tuberculosis diagnosis is a positive TST combined with appropriate clinical findings, this test has somewhat limited accuracy. The introduction of new diagnostic techniques such as IGRA test could be useful, but further data is necessary so that they can be applied rationally in uTB ocular TB.

**Keywords:** therapeutic approach, TBU, diagnosis, IGRA, tuberculin skin test, uveitis, tuberculosis

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12. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (UV) UVEITIS

**CEP Number:** 834178

5. ABSTRACT (REQUIRED):

**Title:** Frequency of Toxoplasma gondii in eye banks tetinas

**Author and Co-authors:** Deise F. Costa, Flavio Fowler, Alessandra G. Commodaro and The Brazilian group of the study of Toxoplasmosis\*.

\*The Brazilian group of the study of Toxoplasmosis (Aline Sutili, Janaina Dias, Mario Junqueira Nobrega, Cristina Garrido, Fernando A J Nobrega,

**Purpose:** To determine the frequency of T. gondii DNA in retinas from Eye Banks from different regions in Brazil.

**Methods:** A total of 162 eyes were obtained from Eye Banks in Manaus (n=60), Sao Paulo (n=60), Chapeco (n=26) and Joinville (n=16) from 2014 to 2016. The retinas were macroscopically analyzed and collected for DNA extraction. Real-time PCR (qPCR) was performed using T. gondii B1 marker.

**Results:** The macroscopic analysis demonstrated the following results regarding the presence of retinal hyper pigmented focal lesions consistent with toxoplasmic retinochoroiditis: Sao Paulo, 6.7%, Manaus, 10%, Chapeco, 15.4% and Joinville 62.5%. We observed in retinas from Manaus, 5% and Joinville, 25% of positivity with qPCR for the B1 marker. No positive qPCR was observed in retinas from Chapeco and Sao Paulo.

**Conclusion:** Our findings have confirmed a higher frequency of T. gondii DNA and retinal focal lesions in the retinas from Joinville in compared with retinas from Sao Paulo, Manaus and Chapeco.

**Keywords:** Toxoplasmosis, Ocular Toxoplasmosis, Posterior Uveitis, Real Time PCR.

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13. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (UV) UVEITIS

**CEP Number:** 31576014

5. ABSTRACT (REQUIRED):

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

**Author and Co-authors:** Fábio Barreto Morais , Tiago Eugênio farias e Arantes , Cristina Muccioli

**Purpose:** Recent studies have linked infectious agents such as toxoplasma gondi to schizophrenia. As there is little information about this association in Brazil and the research of fundoscopic lesions compatible with ocular toxoplasmosis in this group is inedited, we investigated the seroprevalence of Toxoplasma gondii plus ophthalmologic examination with a focus on the search for lesions suggestive of ocular toxoplasmosis in a schizophrenia group and compared with that obtained in control individuals.

**Methods:** A case-control study during 2014-2015. Ophthalmologic examination and Collection of blood samples where Anti-Toxoplasma IgG and IgM antibodies were detected by quimioluminescence. Data were statistically analyzed by chi-square ( $\chi^2$ ) or Fisher's exact test at a confidence level of 95%. For all analyzes the Statistical Package for the Social Sciences (SPSS 15.0) program was used.

**Results:** 34 schizophrenia patients and 85 healthy people were examined. The prevalence of seropositive among patients with schizophrenia was 91.18% with 95% CI [77.04, 96.95], in the control group, the prevalence was 70.59% with 95% CI [60,18, 79,21]. A significant association was found ( $p = 0.017$ ). I gM antibodies (acute form) weren't seen in any patients. 1 (3%) of the schizophrenic group and 2 (2.4%) of the control group presented fundoscopic scarring. There was no association between the presence of fundoscopic scarring and schizophrenia ( $p = 1,000$ ).

**Conclusion:** The sero-positivity rate among patients with schizophrenia was significantly higher than control group ( $p=0,017$ ). The presence of fundoscopic scar was slightly higher in schizophrenic group but there was no association between the presence of fundoscopic scarring and schizophrenia ( $p = 1,000$ ). **Keywords:** Schizophrenia, toxoplasmosis , Uveitis.

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14. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (UV) UVEITIS

**CEP Number:** 1281934

5. ABSTRACT (REQUIRED):

**Title:** Differences in the approach of Brazilian experts to diagnosis and treatment of tuberculous uveitis

**Author and Co-authors:** Yuslay Fernandez Zamora, Luciana Peixoto Finamor, Ricardo P Casaroli-Marano, Rubens Belfort Jr, Cristina Muccioli

**Purpose:** To describe the current approach of Brazilian uveitis experts for the diagnosis and treatment of tuberculous uveitis (TBU), and to compare it with the approach of experts from developing and developed countries.

**Methods:** Participants were uveitis specialists selected from the members list of the Brazilian Uveitis Society (SBU). To all experts were emailed an invitation letter inviting them to participate in the research. Results were compared with a similar survey in the literature that included experts from developing and developed countries.

**Results:** A total of 169 members of the SBU were invited to answer the electronic survey. Seventy-eight of them answered the questionnaire (46.1%), of which 44 were complete and 34 incomplete. In a period of 12 months, Brazilian experts evaluate a mean of 5.6 patients with TBU, while experts from India and North America evaluate about 76.3 and 2.2 patients respectively. Syphilis serology (88%), HIV serology (81%) and tuberculin intradermic test (TST, 81%) were the preferred tests of Brazilian experts to rule out another infectious uveitis. Brazilian experts use the IGRA and chest radiography (CR) less frequently than experts from developing and developed countries. Unexpectedly, the use of chest CT was more frequent in Brazil than in the others two groups. A positive result of TST continues to be the principal test to prompt therapy in 81% of Brazilian experts, coinciding with the approach in developing countries. Results of IGRA and CR tests are less likely to be used by Brazilian experts to prompt anti-tubercular therapy (ATT) compared with the other 2 groups of experts. Regarding the choice of TBU treatment, experts from Brazil and developing countries usually prescribed the standard ATT, and experts from developed countries preferred to defer ATT to other clinician. Considering treatment time, 39% of Brazilian experts indicate 9 months of treatment, 34% indicate 6 months, and 14% indicates 12 months. A similar approach was found in both developed and developing countries.

**Conclusion:** Results have shown different approaches for the diagnosis and treatment of TBU in the three groups of experts studied. Hence, even among the experts, there is no general consensus about management of this disease. **Keywords:** therapeutic approach, TBU diagnosis, IGRA, tuberculin intradermic test, uveitis

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15. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (LS) LACRIMAL SYSTEM

**CEP Number:** 0463/10

5. ABSTRACT (REQUIRED):

**Title:** Lacrymal recanalizer recanalization of the naso lachrymal duct (rnld) with high frequency

**Author and Co-authors:** GARCIA, E A MACHADO, M A C SILVA, J A F MAGALHAES, O NOSE, W

**Purpose:** Analyse the possibility to restore lachrymal flow in dacriocistitis with minimum interference in lachrymal bomb, scar absence, safe for injury of medial structures and without the necessity of carries through a by pass (osteotomy) using a High Frequency device.

**Methods:** Patients with chronic dacriocistitis, older than 18 years, no heart disease, no peace maker, no previous surgical treatment were selected. The recanalization (RNLD) was performed with local anesthesia, and bicanalicular intubation with silastic. The results of 2 devices with different frequencies (450Khz x 4Mhz) were compared

**Results:** RCDNL 450KHz (n=36) with irrigation P.O. success 80,5% (29) , failure 19,5% (7)  
 RCDNL 450KHz (n=31) with eye drops P.O. success 83,8% (26), failure 16,2% (5)  
 RCDNL 4Mhz (n=36) with eye drops P.O. 20% cut / 80% coag success 83,3% (30) , failure 16,7% (6)  
 RCDNL 4Mhz (n=22) with eye drops P.O. 50% cut / 50% coag success 81,8% (18) , failure 18,2% (4)

**Conclusion:** RNLD with high frequency seems to be an interesting approach of lachrymal obstruction, with low risk, no scar, no bleeding and good results. The success rate (80,5% - 83,8%) are near from others studies .

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

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16. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Purpose, Methods, Results,**  
**Conclusion.**

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5. ABSTRACT (REQUIRED):

**Title:** Risk factors associated with the ophthalmoscopic findings identified in infants with presumed Zika virus congenital infection

**Author and Co-authors:** Camila V. Ventura, MD, Mauricio Maia, MD, PhD, Simone B. Travassos, MD, Thayze T. Martins, MD, Felipe Patriota, MD, Marcos Eugenio Nunes, MD, Cristiana Agra, MD, Virginia L. Torres, MD, PhD, Vanessa van der Linden, MD, Regina C. Ramos, MD, Maria Angela W.

**Purpose:** The Zika virus (ZIKV) might cause microcephaly and ophthalmoscopic findings in infants of mothers infected during pregnancy. The purpose of this study was to assess and identify possible risk factors for ophthalmoscopic findings in infants born with microcephaly and a presumed clinical diagnosis of ZIKV intrauterine infection.

**Methods:** We conducted a cross-sectional study at the Altino Ventura Foundation in Recife, Brazil, that included 40 infants with microcephaly born in Pernambuco state, Brazil, between May and December 2015. Toxoplasmosis, rubella, cytomegalovirus, syphilis, and human immunodeficiency virus were ruled out in all of them. Testing of cerebrospinal fluid for ZIKV using IgM antibody-capture enzyme-linked immunosorbent assay was performed in 24 of 40 infants (60.0%). The infants and mothers underwent ocular examinations. The infants were divided into 2 groups, those with and without ophthalmoscopic alterations, for comparison.

**Results:** Among the 40 infants, the mean (SD) age was 2.2 (1.2) months (range, 0.1-7.3 months). Of the 24 infants tested, 100% had positive results for ZIKV infection: 14 of 22 infants (63.6%) from the group with ophthalmoscopic findings and 10 of 18 infants (55.6%) from the group without ophthalmoscopic findings. The major symptoms reported in both groups were rash by 26 mothers (65.0%), fever by 9 mothers (22.5%), headache by 9 mothers (22.5%), and arthralgia by 8 mothers (20.0%). No mothers reported conjunctivitis or other ocular symptoms during pregnancy or presented signs of uveitis at the time of examination. Thirty-seven eyes (46.3%) of 22 infants (55.0%) had ophthalmoscopic alterations. Ten mothers (71.4%) of infants with ocular findings reported symptoms during the first trimester (frequency, 0.48, 95%CI, 0.02-0.67, P = .04). A difference was also observed between the groups of infants with and without ocular findings regarding the cephalic perimeter: mean (SD) of 28.8 (1.7) and 30.3 (1.5), respectively (frequency, &#8722,1.50, 95%CI, &#8722,2.56 to &#8722,0.51, P = .004).

**Conclusion:** Ocular findings was identified in 55% of infants, which were related to smaller cephalic diameter at birth and to infants whose mothers reported symptoms during the first trimester.

**Keywords:** Congenital Infection, Zika virus, Teratogen, Ocular Findings



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17. FIRST (PRESENTING) AUTHOR (REQUIRED):

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

**CEP Number:** 36030790

5. ABSTRACT (REQUIRED):

**Title:** Total eye allotransplant: present challenges and experimental rabbit surgical model

**Author and Co-authors:** Emmerson Badaro, Gabriel Costa de Andrade, Gustavo Buchele Rodrigues, Paula Cassini, Eduardo Amorim Novais, Michel Eid Farah, Ivan Maynard Tavares, Eduardo Buchele Rodrigues.

**Purpose:** Over 37 million people suffer from irreversible blindness around the world. The irreversible characteristic of blindness is due to optic nerve irreversible damage. A potential novel treatment for these patients is total eye allotransplant. The purpose of this research is to develop an animal model of total eye transplant, to describe the surgical technique and determine the viability of the model, evaluating retinal functionality by electrophysiology (ERG) and anatomical integrity by light microscopy.

**Methods:** Twelve pigmented chinchilla rabbits were used in this project. Six animals were submitted to lateral orbitotomy and section of the optic nerve without neurovascular anastomosis and ERG study was performed. Six other animals were submitted to the same technique, but with immediate neurovascular anastomosis using fibrin glue. ERG was performed immediately before the surgical procedure (baseline), immediately after, and at 1, 5 and 30 minutes and 6 hours after the procedure. After euthanasia, eyes were enucleated and examined by light microscopy to evaluate the neuro anastomosis.

**Results:** Lateral orbitotomy was found to be the best surgical access to the posterior orbit region and best access to identify the optic nerve, to perform section and its anastomosis. The optic nerve was sutured with success to the donor eye with fibrin glue. In eyes not submitted to immediate nerve suture, ERG function was reduced to 14% from baseline immediately after the section, and after five minutes the amplitude of the curves were extinguished. Light microscopy results are being analyzed.

**Conclusion:** Whole eye transplantation is an innovative surgical procedure that could help blind patients to see again. We developed an animal model to improve the experimental surgical technique in rabbits.

**Keywords:** hole eye transplant, Optic nerve



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18. FIRST (PRESENTING) AUTHOR (REQUIRED):

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

**CEP Number:** 88034100

5. ABSTRACT (REQUIRED):

**Title:** Patient pain during intravitreal injections under topical anesthesia: A systematic review

**Author and Co-authors:** Michel E. Farah, Ana Luiza Hoffling-Lima, Augusto Takaschima, Eduardo B. Rodrigues

**Purpose:** Intravitreal injection (IVI) is a very common vitreoretinal procedure, and multiple injections are often required per patient. This systematic review was conducted to evaluate the effectiveness of various local anesthetic techniques in reducing pain during IVI.

**Methods:** A systematic review was conducted based on searches of Cochrane, LILACS, PubMed, Scopus and Web of Science. We classified pain by converting visual analog scale (VAS) scores (0-100 mm) into Jensen's classification levels: 0-4, no pain, 5-44, mild pain, 45-74, moderate pain, and 75-100, severe pain.

**Results:** Eight studies out of 23 met the eligibility criteria. The anesthetic techniques included eye drops with proparacaine, tetracaine or cocaine, a lidocaine pledget or gel, and subconjunctival injection of 2% lidocaine. Pain was mild (VAS scores, 5-44 mm) regardless of anesthetic technique. A clinically significant intervention (pain score change >12 mm) was found for only one study comparing proparacaine drops, lidocaine gel, and subconjunctival lidocaine, in that study, a subconjunctival injection of 2% lidocaine provided the greatest pain reduction. A meta-analysis was not possible due to study heterogeneity.

**Conclusion:** Patient pain during IVI under topical anesthesia is mild regardless of anesthetic technique. A subconjunctival injection of 2% lidocaine could be an option for highly sensitive patients. However, with moderate level of evidence, no single anesthetic technique could be defined as the best option for IVI.

**Keywords:** Pain, intravitreal injection, anesthesia, gel

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19. FIRST (PRESENTING) AUTHOR (REQUIRED):

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

**CEP Number:** 1576/10

5. ABSTRACT (REQUIRED):

**Title:** Does microperimetry have a prognostic value in central serous chorioretinopathy?

**Author and Co-authors:** LUIZ ROISMAN, MD, JOAO C. RIBEIRO, MD, FRANCISCO V. FECHINE, PHD, DANIEL LAVINSKY, MD, NILVA MORAES, MD, MAURO CAMPOS, MD, PHD, MICHEL E. FARAH, MD, PHD

**Purpose:** To investigate the relationship between retinal sensitivity and persistence of

subretinal fluid and then to analyze microperimetry as a prognostic predictor of acute central serous chorioretinopathy

**Methods:** A prospective observational study. Fourteen eyes of 14 patients presenting with first episode acute central serous chorioretinopathy were enrolled and underwent ocular examination, spectral domain optical coherence tomography, and MAIA microperimetry

were performed. After three months of follow-up, without any treatment, visual acuity and spectral domain optical coherence tomography macular thickness assessments and microperimetry were repeated. The main outcome was to find a relation between initial

macular sensitivity and persistence of subretinal fluid. A receiver operating characteristic

curve was plotted to indicate the best macular sensitivity cutoff point that would be able to predict whether a patient with acute central serous chorioretinopathy would progress to the chronic form. According to the cutoff, we calculated the sensitivity, specificity, and positive and negative predictive values for macular sensitivity as a method to predict persistence of subretinal fluid.

**Results:** On the basis of the receiver operating characteristic curve, a cutoff of 20 dB macular sensitivity was obtained, as the best balance between sensitivity and specificity to predict chronicity. Using this cutoff, the method had a sensitivity of 71% and specificity of

100% with a positive predictive value of 100% and negative predictive value of 78%. Furthermore, it was found that eyes with acute central serous chorioretinopathy and microperimetry of less than 20 dB had a relative risk of 4.5 to develop subretinal fluid persistence.

**Conclusion:** Microperimetry with a cutoff of 20 dB may be a useful test to predict the persistence of subretinal fluid, allowing the ophthalmologist to use treatment tools earlier, preventing extracellular damage and visual impairment.

**Keywords:** microperimetry, prognostic, central serous chorioretinopathy

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20. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Mariana Vallim Salles

**e-mail:** marivallim@yahoo.com.br

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

**CEP Number:** 6159

5. ABSTRACT (REQUIRED):

**Title:** Segregation analysis in Stargardt patients families: Investigation of complex allele in Abca4 gene

**Author and Co-authors:** Mariana Vallim Salles, Fabiana Louise Motta, Karita Antunes Costa, Joao Bosco Pesquero and Juliana Maria Ferraz Sallum

**Purpose:** To investigate occurrence of two mutations in the same chromosome in ABCA4 gene in Brazilian patients with diagnosis of Stargardt disease

**Methods:** The ABCA4 gene was first sequenced with next generation technique in the Stargardt patients. For the conclusion of the molecular tests, segregation analyze is useful to determinate the family inheritance of each pathogenic variation. Among a group of 23 families, 10 families were selected for segregation analysis to study the possibility of complex alleles. As inclusion criteria the proband must have three pathogenic variations or two variations suspect to be at a single chromosome (complex allele). The Sanger sequencing technique was used for segregation analysis. The molecular results were compared with available databases. Besides the genetic evaluation, the clinical characteristics of the patients were evaluated.

**Results:** Those 10 families underwent the segregation analysis and it was able to confirm the presence of three different complex allele in ABCA4 gene. They were: [p.Leu541Pro and p.Arg1443His] in three families, [p.Leu541Pro and p.Ala1038Val] in one family and [p.Ser1642Arg and c.5044\_del15bp] in six families. The [p.Leu541Pro and p.Ala1038Val] was already known but the other two are new. Stargardt disease is autosomal recessive when caused by variations in ABCA4 gene. The molecular diagnoses can be conclusive if with the complex allele the patient also has another pathogenic variation in the other chromosome. In addition to that new information, the molecular tests identify 2 new variations as the second allele in ABCA4 gene

**Conclusion:** The segregation analysis was important to confirm the molecular diagnosis of patients with Stargardt disease due to the possible presence of more than two pathogenic variations in the ABCA4 gene. The knowledge about variations in the same chromosome can help to determinate the molecular diagnose and consolidate the necessity of segregation to conclude the diagnosis.

**Keywords:** Retinal Dystrophies, Eye Diseases, Hereditary, ABCA4 protein, human, Genetics

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**Purpose, Methods, Results,**  
**Conclusion.**

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21. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Thais Sousa Mendes

**e-mail:** thaismendesoft@gmail.com

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

**CEP Number:** 466906091

5. ABSTRACT (REQUIRED):

**Title:** Preclinical investigation of the safety of intravitreal curcumin

**Author and Co-authors:** Thais Sousa Mendes, Eduardo Amorim Novais, Emmerson Badar? Cardoso, Jo?o Rafael de Oliveira Dias, Rita Sinigaglia-Coimbra, Vinicius Kniggendorf, Camila Xavier, Bruna Ferra?o Marianelli, Michel Eid Farah and Eduardo Buchele Rodrigues.

**Purpose:** To study safety of curcumin (curcuma longa) on rabbits'eyes after intravitreal injection.

**Methods:** Six rabbits were randomly divided into 2 groups: group 1 received intravitreal curcumin at 0.1mg and group 2 received a higher dose of 0.3mg. Left eye of each rabbit was used as control. ERG was performed in all eyes before and after injection. Additionally, spectral-domain optical coherence tomography (SD-OCT) and angiofluoresceinography (FA) were performed to evaluate structural changes at baseline and 7 days after injection. After enucleation, histology was evaluated.

**Results:** The injection of curcumin did not induce ERG changes when compared to control. No structural changes were found in SD-OCT and FA. Histopathologic appearance of the retina, choroid, sclera, and optic nerve was within normal limits, without any signs of severe retinal necrosis or cystic degeneration.

**Conclusion:** Curcumin is a natural drug with anti-VEGF and anti-inflammatory properties. Intravitreal injection of curcumin showed short-term safety at concentrations of 0.1 and 0.3mg in vivo.

**Keywords:** curcumin, natural drug, antiangiogenic, intravitreal.

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**Purpose, Methods, Results,**  
**Conclusion.**

Poster guidelines:  
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22. FIRST (PRESENTING) AUTHOR (REQUIRED):

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

**CEP Number:** 54042316

5. ABSTRACT (REQUIRED):

**Title:** Optical coherence tomography findings in spinocerebellar ataxias types 2 and 3

**Author and Co-authors:** Bruna Ferrazzo Marianelli, Flavio Moura Rezende, Vitor Kazuo Lotto Takahashi, Juliana Sallum, Jose Luiz Pedroso, Orlando Graziani Povoas Barsottini

**Purpose:** To evaluate optical coherence tomography characteristics in patients with spinocerebellar ataxias (SCAs) types 2 and 3, in order to find possible new biomarkers for this group of neurological diseases.

**Methods:** 53 patients from the Departments of Neurology of Escola Paulista de Medicina of Universidade Federal de São Paulo (Unifesp) were recruited between March and September 2016. All patients had clinical diagnosis of spinocerebellar ataxias types 2 and 3, with genetic test confirmation. This study was approved by the Unifesp Ethics Committee and respected the Declaration of Helsinki principles. All patients signed the informed consent form. Each patient underwent a complete ophthalmologic examination, including best corrected visual acuity (BCVA) with Snellen chart, ocular motility, slit lamp biomicroscopy, intraocular pressure measurement and indirect ophthalmoscopy. Spectral-domain OCT (Spectralis, Heidelberg) was performed in all individuals. Exclusion criteria were: patients with glaucoma, optic neuropathy or any other cause of decrease in the RNFL thickness, patients with significant past ocular history (such as ocular trauma or any other cause of visual loss), patients with large refractive defects (hyperopia > +4 diopters or myopia < -4 diopters).

**Results:** 53 patients were included, 27 (50,94%) were male and 26 (49,06%) were female. The mean age was 44,19 ± 12,13 years-old. The subgroup of patients with SCA 2 had 11 individuals (6 male and 5 female), with mean age of 38,18 ± 10,51 years-old. The subgroup of patients with SCA 3 had 42 individuals (21 male and 21 female), with mean age of 45,76 ± 12,14 years-old. In the SCA2 subgroup, 5 of 11 (45,45%) of the patients had a reduction of the RNFL at one or more sectors (superior, inferior, nasal or temporal). In the SCA3 subgroup, 17 of 42 (40,48%) of the patients had a reduction of the RNFL at one or more sectors. Considering the entire group of 53 patients, 22 (41,51%) showed reduction of the RNFL at one or more sectors.

**Conclusion:** We concluded that a significant number of patients diagnosed with SCAs types 2 and 3 had a reduction of the RNFL that cannot be explained by other ocular conditions. We believe that this data could be used further as a disease biomarker. More studies are necessary to try to correlate this data with the severity and the stage of the disease.

**Keywords:** OCT, ataxia, RNFL

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23. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Cristiane Siqueira Peris

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**Service:** (PH) PHARMACOLOGY

**CEP Number:** 42160912

5. ABSTRACT (REQUIRED):

**Title:** Anthocyanin analysis in a novel vital Dye extracted from the Açai fruit (Euterpe oleracea) for chromovitrectomy

**Author and Co-authors:** Cristiane S. Peris, Rafael R. Caiado, MD, Acacio Alves Souza Lima-Filho, PhD, Emmerson Badaro, MD, PhD, Andre Maia MD, PhD, Octaviano M. Jr MD PhD, Raul Ragazzi, Eduardo B. Rodrigues, MD, PhD, Michel Eid Farah, MD, PhD, Mauricio Maia, MD, PhD

**Purpose:** The aim of this study was to classify and quantify the anthocyanins present in a vital dye extracted from the acai fruit (Euterpe oleracea) to be used in chromovitrectomy

**Methods:** The acai dye was extracted, lyophilized and diluted in 1 mL of polyvinyl alcohol in three different concentrations: 10%, 25%, and 35%. High Performance liquid Chromatography (HPLC) and Mass Spectrometry were used to quantify and to identify by correlating the masses of particles observed in samples to one of the following five isolated anthocyanin molecules: 1-Cyanidin-3-0-glucoside, 2-Homoorientin, 3-Orientin, 4-Isovitexin and 5-Taxifolin. No statistical analysis was performed

**Results:** All five anthocyanin molecules were identified in the samples. The quantity for each anthocyanin according to dye concentration were:

Anthocyanins	Dye at 10%	Dye at 25%	Dye at 35%
Cyanidin-3-0-glucoside	836,55 ± 8,89mg/L	795,36 ± 7,87mg/L	786,28 ± 22,96mg/L
Homoorientin	88,17 ± 0,13mg/L	%: 81,16 ± 1,43mg/L	84,03 ± 1,39mg/L
Orientin	65,49 ± 1,09mg/L	60,13 ± 1,10mg/L	62,99 ± 0,27mg/L
Isovitexin	14,45 ± 0,90mg/L	13,54 ± 0,77mg/L	12,66 ± 0,21mg/L
Taxifolin	21,04 ± 0,69mg/L	19,98 ± 0,84mg/L	20,81 ± 0,28mg/L

**Conclusion:** The most abundant anthocyanin was Cyanidin-3-0-glucoside. The anthocyanin quantity was not influenced by dye concentration. The identification of five different anthocyanin molecules at acai dye composition is an important landmark to guide future investigations related to the acai dye development and use during vitreoretinal surgery in humans

**Keywords:** vitreoretinal, acai, anthocyanin, chromovitrectomy, internal membrane limitint



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**Purpose, Methods, Results,**  
**Conclusion.**

Poster guidelines:  
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24. FIRST (PRESENTING) AUTHOR (REQUIRED):

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

**CEP Number:** 1370484

5. ABSTRACT (REQUIRED):

**Title:** Ocular abnormalities in mice following congenital Zika virus infection

**Author and Co-authors:** Juliana Prazeres, Juliana Sallum, Nilva Moraes, Jean Pierre Peron, Patricia Braga, Daniela Rosa, Rubens Belfort Jr, Maurício Maia

**Purpose:** To demonstrate that Zika Virus (ZIKV) congenital infection may cause distinct ocular abnormalities at different periods of pregnancy in a murine model

**Methods:** A murine experimental model of SJL (The SJL inbred model was developed in 1955 from Swiss Webster outbred mice of three origins) pregnant mice will be infected with specific viral charge of ZIKV at different periods of pregnancy (Maternal inoculation at embryonic day E6.5 or E7.5. The newborns mice will be evaluate at 1 day , 7 days, 30 days and 45 days after birth. The findings will be compared to pups born from the non-infected controls. Both groups will be euthanized on day 45.

Fundus photographs and fluorescein angiograms will be performed at the different timelines described and at the 45th day after birth. The histological analysis will be performed to evaluate the retina and optic disc abnormalities. The PCR assay will be used to confirm the presence of ZIKV genomic RNA in ocular tissues.

**Results:** We intend to demonstrate that pups born from pregnant ZIKV infected mice can develop distinct ocular abnormalities in retina and optic disc. Using a PCR assay and histopathological analysis, we are planning to confirm the presence of ZIKV genomic RNA in retina tissues.

**Conclusion:** This murine model will be useful for understanding if the physiopathogenesis of the macular and optic nerve abnormalities in pups are related to: 1-Virus infection of ocular tissue, 2- Embryogenesis mechanism, 3-Combined mechanisms. This data will be useful for comprehension of mechanisms related to ocular findings in congenital ZIKV infection in humans, which is an important public health problem nowadays.

**Keywords:** ZIKA VIRUS, Zika Virus Congenital Infection , Ocular findings, Microcephaly



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25. FIRST (PRESENTING) AUTHOR (REQUIRED):

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

**CEP Number:** 110098

5. ABSTRACT (REQUIRED):

**Title:** Teleophthalmology support for primary care diagnosis and management

**Author and Co-authors:** Torres MD1, Morales MD PhD1, Olimpio Bittar MD2, Mansur MD3, Salomao PhD1, Belfort Jr MD PhD1

**Purpose:** This study aims to evaluate a health care strategy based on tele ophthalmology for diagnosis and treatment of primary health care users with diabetes, systemic blood hypertension or use of chloroquine compounds.

**Methods:** Descriptive cross-sectional study, where medical records of patients (January, 2013 to December, 2013) from primary care units in the city of São Paulo were reviewed. The units referred patients with DM, high blood pressure and use of chloroquine compounds, for fundus examination. The patient had their pupil dilated and the picture were taken. The image were send to a reading center with expert ophthalmologist reviewed then and issued diagnosis and patient referral.

**Results:** From the 9216 analysed patients the mean age 60.2 years , 4960 patients were diabetic (53.81%), 7312 had blood hypertension (79.33%), 113 were chloroquine users (1.23%) and 570 had other comorbidities (6.2%). The total of 989 patients, (11.5% of the total) were found to need complementary ophthalmologic action. The most frequently prescribed treatments were cataract extraction (67.05%) and photocoagulation (23,64%). Four the total, cataract extraction was indicated in 7.50% of the cases, and photocoagulation, in 2.65%. When considering only diabetic patients, photocoagulation indication rate rises from 2.65% to 4.44%. In this subgroup, photocoagulation main indication was proliferative retinopathy diabetic and diabetic maculopathy together, with 74,64% of the cases, other indications were vascular occlusion.

**Conclusion:** This study shows that non-medical professionals can use telemedicine to capture ocular images for screening, higher surgical indication and more integrated into the health system compared to traditional methods. We can thus evaluate a greater number of patients, targeting only those who would benefit from a complete evaluation, optimizing the operation and queries marking system speed and minimizing the unsuccessful attempt to obtain eye care, which today represents the main barrier faced by the public health system users.

**Keywords:** teleophthalmology, diabetes, healthcare

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26. FIRST (PRESENTING) AUTHOR (REQUIRED):

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

**CEP Number:** 647651

5. ABSTRACT (REQUIRED):

**Title:**

**Author and Co-authors:** Preclinical study of anti-inflammatory agents delivered to the eye via episcleral implant

**Purpose:** Preclinical toxicokinetics studies were conducted to evaluate the safety, toxicity and pharmacokinetics of selected formulations and doses of four anti-inflammatory agents (celecoxib, triamcinolone acetonide and indomethacin)

**Methods:** All tested formulations were manufactured under clean room conditions to attain Good Manufacture Practices (cGMP) standards applicable to phase I human testing compatibility with the proposed application--implantable product. The rationale for dose escalation was to test one implant per eye of the lowest formulated dose and two implants per eye of the highest formulated dose. Each drug trial comprised two cohorts--for toxicity and pharmacokinetics evaluation. The Good Laboratory Practices (GLP) studies were conducted according to 21 CFR part 58. New Zealand White female rabbits weighing 3.5 kg or more were used for both safety/toxicity (4 to 5 per dose group) and pharmacokinetics (3 per dose group for each time point) evaluation. The assessment of safety/toxicity was done at selected time points (experimental design table) by slit-lamp biomicroscopy and indirect ophthalmoscopy, IOP pneumatonometry, color fundus photography of the retina, choroid and optic disc in all ocular quadrants, and scotopic/photopic ERG. Left eyes were used as controls. For ad hoc fundus photography grading of posterior segment findings baseline photographs were used as reference. At the pre-specified time points animals were humanely sacrificed and eyes were collected for histopathological (toxicity groups) or pharmacokinetics' analysis (Pk groups).

**Results:** After implantation of the episcleral devices, eyes exposed to all anti-inflammatory agents evolved with signs of mild ocular surface irritation noticeable up to day 7. No significant differences in the IOP or in the recorded scotopic and photopic ERG parameters were noticed between the right and control eyes with any anti-inflammatory agent. Preliminary data on the pharmacokinetics of triamcinolone acetonide, celecoxib and indomethacin revealed therapeutic concentrations of these agents in the choroid, retinal pigment epithelium and retina.

**Conclusion:** Preclinical GLP studies of three anti-inflammatory agents delivered to the eye via episcleral implant were conducted in support of investigational new drug application to demonstrate its safety, toxicity and pharmacokinetics. The preliminary analysis of the toxicological data indicates that all three drugs are overall safe after episcleral delivery. These results support continuation through clinical investigation of the products.

**Keywords:** Anti-inflammatory agents, Drug delivery, Episcleral implant, Pharmacokinetics,

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27. FIRST (PRESENTING) AUTHOR (REQUIRED):

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

**CEP Number:** 98104

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5. ABSTRACT (REQUIRED):

**Title:** Surgical management of macular hole with 2 years of follow-up  
**Author and Co-authors:** Brasil OF, Brasil OM, Badaro E, Navarro RM, Maia M

**Purpose:** To determine prognostic factors, anatomic success rate and safety of sutureless pars plana vitrectomy and vitreous base removal associated to internal limiting membrane (ILM) peeling, SF6 injection and 1-day facedown postoperative positioning to manage idiopathic macular holes (MHs) at 2 years follow-up.

**Methods:** Retrospective study from patients charts and videos review.  
 Inclusion Criteria: Idiopathic macular holes with less than 2 years history,  
 Exclusion Criteria: Previous vitreoretinal surgery, other ocular comorbidities, less than 2 years follow up.

**Surgical technique:** Eyes underwent pars plana vitrectomy or combined phaco vitrectomy (if more than 50 years old), vitreous base shaving, ILM peeling after Brilliant Blue 0.05 mg/ml staining, and SF6 gas tamponade. Patients remained facedown for 1 day postoperatively.

**Follow-up:** Measurement of best-corrected visual acuity (BCVA) and optical coherence tomography at 1 and 7 days and 1, 6, 12, and 24 months postoperatively. If the MHs were not anatomically closed within 1 month, another procedure was performed.

**Statistical analysis:** BCVA improvement from baseline to final follow up was performed by student t-Test. P-values < 0.05 were statistically significant.

**Results:** Forty-six eyes with were included. Primary and final anatomical closure rate were 91.3% and 97.8%, respectively. Mean BCVA improvement from baseline was 0.3415 logMAR (range, 0.0-0.9, p<0.05). 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:** Pars plana vitrectomy combined with vitreous base removal and ILM peeling using Brilliant Blue 0.05% associated to SF6 injection and 1-day facedown postoperative positioning for idiopathic MHs is a safe surgical approach, achieving a MH closure rate of 91.3% after one procedure and 97.8% after a second one. Long symptoms duration and larger inner MH diameter are associated with poor BCVA.

**Keywords:** Macular Hole, Vitrectomy, Brilliant Blue

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28. FIRST (PRESENTING) AUTHOR (REQUIRED):

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

**CEP Number:** 195748

5. ABSTRACT (REQUIRED):

**Title:** Stem cell derived therapy for Stargardt's disease: A phase I/II trial  
**Author and Co-authors:** Rodrigo A. Brant Fernandes 1, Fernando Lojudice 1,2, Priscila Cristovam 1,2, Vinicius Ferreira Kniggendorf 1, Elmar Torres Neto 1, Octaviano Magalhães Jr 1, Andre Maia1, Juliana Sallum 1, Mari Sogayar 2, Rubens Belfort Jr 1, Mauricio Maia 1.1-Department o

**Purpose:** To access the safety and feasibility of sub retinal implantation of human embryonic stem cell-derived retinal pigmented epithelium (hESC-RPE) in Stargardt's disease patients.

**Methods:** This phase I/II clinical trial was approved by Unifesp Ethics Committee and Conep. Six patients with Stargardt's disease received a hESC-RPE solution (2 million cells/ 0,1 ml) implanted into the sub retinal space. In order to avoid bias, surgical procedures were performed by 2 surgeons only (R.A.B.F and M.M). The surgery consisted of phacoemulsification, IOL insertion, pars plana vitrectomy, induction of a limited retinal detachment using a 41-gauge polyamide translocation cannula (Synergetics, USA) and sub retinal injection of cells solution followed by fluid-air exchange and prone-positioning. 1mg/kg of oral prednisone and 5mg/kg of cyclosporine was administered from day 1 until 3 months of follow-up (total follow up one year). Patients were evaluated pre and postoperatively by ophthalmological examination, including imaging as well as electrophysiological tests. A systemic pre anesthetic evaluation was also performed. Student t-Test was used for statistical analysis.

**Results:** All patients reported improvement in BCVA (below), and in their daily-life activities: The BCVA, visual fields (Goldmann) and the electrofisiological tests showed improvement in all 6 patients (p

**Conclusion:** The surgical procedure for sub retinal implantation of hESC-RPE proved feasible and safe, without migration, signs of rejection or inflammation or development of ocular or systemic tumors at the 5-months follow up. **Keywords:** STEM CELLS, RETINA, STARGARDT'S DISEASE

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29. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Claudio Maurício Zett Lobos

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**Service:** (US) OCULAR ULTRASOUND

**CEP Number:** 1575811

5. ABSTRACT (REQUIRED):

**Title:** Optical coherence tomography angiography for iris vasculature imaging

**Author and Co-authors:** Claudio Zett Lobos, Renata Tiemi Kato, Deborah M. Rosa Stina, Eduardo A. Novais, Norma Allemann

**Purpose:** To compare iris vascularization in eyes using spectral-domain (~840 nm) anterior segment optical coherence tomography angiography (AS-OCTA) and fluorescein angiography (AS-FA).

**Methods:** Patients with different levels of iris pigmentation were prospectively recruited to be imaged on OCTA adapted with an anterior segment lens (AngioVue, Optovue Inc., Fremont, California, EUA) and confocal scanning laser ophthalmoscope (cSLO) fluorescein angiography (FA) (Spectralis HRA Heidelberg Engineering, Heidelberg, Germany) adapted with an anterior segment lens. AS-OCTA images were obtained using a 6x6 mm scan size pattern, divided into nasal and temporal quadrants and then compared to FA images.

**Results:** Twenty eyes, 10 patients, with different iris colors were imaged on AS-OCTA and AS-FA. In both methods, the signal blockage was directly proportional to the intensity of the pigmentation of the iris. Considering the sample analyzed, AS-OCTA showed more details of iris vascularization than FA. Moreover, the depth-resolved characteristic of AS-OCT angiograms allowed us a 3D reconstruction of the iris. However, AS-OCTA was not able to detect contrast leaking, delay or impregnation as the AS-FA images. Patients with nystagmus and with inadequate fixation had lower quality images in OCTA compared to FA images.

**Conclusion:** AS-OCTA is a new imaging modality that allows the analysis of anterior segment and iris vascularization. In our study, AS-OCTA provided similar quality of images compared to AS-FA. In both methods, iris pigmentation equally blocked the image of iris vascularization. Additional studies including different iris pathologies are needed to evaluate the parameters of AS-OCT in anterior segment imaging. **Keywords:** Iris Vasculature, Anterior Segment Optical Coherence Tomography Angiography (AS-OCTA), Fluorescein Angiography (FA)



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30. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (US) OCULAR ULTRASOUND

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5. ABSTRACT (REQUIRED):

**Title:** Eye growth and refractive errors in preterm with and without retinopathy of prematurity

**Author and Co-authors:** Ricardo Salles Cauduro Supervisors : Norma Allemann and Nilva Bueno Moraes

**Purpose:** To document the axial growth of the eye in the neonatal period of premature infants.

To identify factors that may relate to later refractive problems.

**Methods:** Premature infants in the neonatal intensive care unit will be recruited and examined longitudinally.

Inclusion criteria: birth weight under 1500g or gestational time less than 32 weeks

Visits performed until 6 weeks postnatally in weekly intervals.

Variables determined at each visit: B-scan ultrasound measurements of ocular biometric parameters as axial length (AL), anterior chamber depth (ACD), lens thickness (LT), vitreous cavity length (V) and sclera ( S ) using 7.5-15 MHz, Mylab, Esaote, eyelid contact technique, cycloplegic refraction using retinoscopy to determine the refractive error, indirect ophthalmoscopy performed using a 28 dioptre lens, pediatric biometric parameters as head circumference, weight and post-menstrual age.

Infants with ROP were recorded according to the Committee for the Classifications of Retinopathy of Prematurity.

**Results:** Preliminary Results

Total 72 eyes, 36 patients, 16 female and 20 male

ROP 18eyes, 09 patients, 03 female and 03 male

	Without ROP	With ROP
Mean ACD:	1,78 ( SD 0,23)	1,76 ( SD 0,24)
Mean LT:	4,02 ( SD 0,08)	4,05 ( SD 0,12)
Mean V:	9,60 ( SD 0,78)	9,65 ( SD 0,66)
Mean S:	0,51 ( SD 0,51)	0,53 ( SD 0,53)
Mean AL:	15,31( SD 1,03)	15,31( SD 0,90)
Mean HC:	28,75( SD 2,33)	27,94( SD 5,77)
Mean R:	2,02 ( SD 0,48)	2,05 ( SD 0,50)
Mean W:	1733(range 1065 -2570)	1.890(range 840 - 3,070)

Note: HC (head circumference), R ( refraction) , SD ( Standart deviation), W ( weight)

**Conclusion:** The effect of prematurity on the growth of the eye and the significance of these findings with respect to the subsequent development of refractive errors in premature infants should be more discussed.

**Keywords:** Growth, Refractive error, Ocular biometry, Pre-term infants, Retinopathy of Prematurity



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**(RE) RETINA AND VITREOUS**

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

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

31. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Felipe Ladeia Muiños de Andrade

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

**CEP Number:** 1309580

5. ABSTRACT (REQUIRED):

**Title:** Automated diagnostic test for diabetic retinopathy in mass screening  
**Author and Co-authors:** Felipe L. M. de Andrade, Rafael Ernane, Paulo Henrique Morales, Andr? Maia, Flavio Lopes, Gabriel Andrade, Rubens Belfort Jr.

**Purpose:** To determine the sensitivity and specificity of automated grading system in detecting diabetic retinopathy compared with human grading in mass screening campaign for diabetes conducted in the Northeast of Brazil.

**Methods:** Cross sectional study was carried out in Itabuna City, Bahia, Northeast Brazil, and it was part of the annual screening campaign for World Diabetes Day, conducted in November 2015. Color fundus images of patients of a DR screening project were analyzed for the purpose of the study. For each eye two set of images were acquired, one centered on the disk and the other centered on the macula. All images were processed by automated DR screening software (Retmarker). The results were compared to ophthalmologist grading of the same set of photographs. All retinal evaluation methods were performed independently and double-blinded. Patients classified with maculopathy and/or proliferative diabetic retinopathy were termed referral.

Burden reduction was calculated by estimating the percentage of patients classified as no referral"" by the automated system.

**Results:** 878 images of 220 patients were analyzed. Based on manual grading, the overall sensitivity of the automated DR screening software in detecting maculopathy and/or proliferative diabetic retinopathy was 93.8% (95% CI, 86.9%-97.7%) with an overall specificity of 68% (95% CI, 59%-76.2%) and a false-negative rate of 2.8% (95% CI, 1%-5.8%). The value of the overall Burden Reduction was 30.9%.

**Conclusion:** The use of an automated computer-aided diagnostic system has shown to be an effective tool for detecting cases of DR requiring treatment in Brazil, proving to be useful in large scale campaigns, as it augments the evaluation capacity of people at risk of DR. Further investigation should be pursued to better evaluate the full cost-effectiveness of this technology.

**Keywords:** Automated retinal imaging, diabetic retinopathy, screening

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

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

32. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Luiz Filipe Adami Lucatto

**e-mail:** filipeadami@yahoo.com.br

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

**CEP Number:** 394440

5. ABSTRACT (REQUIRED):

**Title:** Incidence of anterior segment neovascularization during intravitreal treatment for macular edema after central retinal vein occlusion

**Author and Co-authors:** Luiz Filipe Adami Lucatto, Octaviano Magalhaes-Junior, Juliana MB Prazeres, Adriano M Ferreira, Ramon A Oliveira, Nilva S Moraes, Flavio E Hirai, Mauricio Maia.

**Purpose:** To analyze the effects of injections of intravitreal triamcinolone acetonide (IVTA) and intravitreal bevacizumab (IVB) on macular edema after central retinal vein occlusion (CRVO) on the incidence rates of anterior segment neovascularization (ASN) and neovascular glaucoma (NVG).

**Methods:** In this prospective, randomized, double-masked, sham-controlled study, 35 patients with macular edema after CRVO were randomized to IVB, IVTA, or sham injections during the first 6 months of study. The primary outcome was the incidence rates of ASN at month 6. Secondary outcomes were the mean changes from baseline in best-corrected visual acuity (BCVA) and central foveal thickness (CFT) on optical coherence tomography over time to month 12.

**Results:** ASN developed in eight (22.86%) eyes, five (62.50%) eyes in the sham group and three (37.50%) eyes in the IVTA group but not in the IVB group during 12 months of follow-up (P=0.009). The BCVA differed significantly (P<0.05) among groups only at month 1. The CFT did not differ significantly (P<0.05) among groups over 12 months. NVG developed in one despite laser treatment and required surgery.

**Conclusion:** Early treatment with intravitreal anti-vascular endothelial growth factor therapy decreases rates of ASN and NVG after CRVO.

**Keywords:** neovascularization, bevacizumab, retinal vein, edema macular, neovascular glaucoma

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**Purpose, Methods, Results,**  
**Conclusion.**

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33. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Renato Magalhães Passos

**e-mail:** renatompasos@yahoo.com.br

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

**CEP Number:** 0733/10

5. ABSTRACT (REQUIRED):

**Title:** Panretinal photocoagulation with 577nm multispot vs 532nm single-spot laser for diabetic retinopathy: A clinical trial

**Author and Co-authors:** Renato M. Passos, Jose Belucio-Neto, Camilla Xavier, Eduardo Novais, Mauricio Maia, Michel E. Farah

**Purpose:** To evaluate anatomical and functional outcomes in patients with diabetic retinopathy (DR) submitted to panretinal photocoagulation (PRP) with 577nm multispot laser (Supra Scan® Quantel Medical) vs 532nm single-spot laser (PASCAL® Topcon), and to compare laser parameters and patient tolerance.

**Methods:** Single-center, randomized clinical trial involving 48 patients with DR who met criteria for PRP. Eyes with ocular commorbidities or previous intravitreal injection or vitrectomy were excluded. Baseline best corrected visual acuity (BCVA), OCT and fluorescein angiography were performed. Patients then underwent PRP treatment, either using 577nm multispot laser with 20ms exposure time (group 1) or 532nm single-spot laser with 100ms exposure time (group 2). Exams were repeated 6 and 12 months after treatment. The main outcome was BCVA, and secondary outcomes were FA and OCT changes, laser parameters, number of sessions required for PRP and patient tolerance measured through a subjective pain scale from 0 to 10. Statistical analyses were performed using T-Student, Chi Square or Fisher's tests.

**Results:** So far 24 patients completed the final visit. Group 1 (n=11) presented baseline BCVA of 0.5±0.2 and central retinal thickness (CRT) of 298±110&#956,m, treatment was divided in 3±1 sessions, delivering 2924±479 laser spots. Patients' reported pain was 5±2 and photofobia 6±3. After 12 months, mean BCVA was 0.7±0.5 and CRT 260±71, OCT showed evidence of some degree of posterior vitreous detachment (PVD) in 64% of patients and macular edema improved in 64%. Group 2 (n=13) presented baseline BCVA 0.5±0.3 and CRT 341±171&#956,m, 1404±272 spots were produced in 4±1 sessions, mean pain was 6±2 and photofobia was 6±2. In the 12-month visit, mean BVCA was 0.4±0.3, OCT showed PVD induction in 54% of patients and macular edema improved in 54%. Angiographic evaluation 12 months after PRP in group 1 showed reduction of new vessels in 36.3% of patients and improvement of non-perfusion areas in 45.4%, those numbers in group 2 were respectively 46.1% and 53.8%.

**Conclusion:** The results of this clinical trial show differences between the two groups regarding the characteristics of the laser sessions, patients treated with the 577mm multispot laser seemed to have less pain during the sessions due to the lower exposure time, also this group required a smaller number of sessions for completing treatment, through increasing treatment density and delivering a greater number of spots to compensate for the lower fluency. Anatomical outcomes were similar in both groups, with most patients presenting PVD and reduction of macular edema, however, the regression of new vessels specifically seems to take a longer time to be observed and less frequently in the 577nm group. This seems to be related to the severity of baseline disease and bad systemic control, rather than the treatment modality employed. There were no significative BCVA changes between the groups. **Keywords:** diabetic retinopathy, photocoagulation, multispot laser

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

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

34. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Caroline Franco Machado

**e-mail:** carolm89@outlook.com

**Service:** (TU) TUMORS AND PATHOLOGY

**CEP Number:** 0115/07

5. ABSTRACT (REQUIRED):

**Title:** Eyelid tumors over 13-years at Latin America's highest volume ocular Oncology Reference Center in Sao Paulo, Brazil

**Author and Co-authors:** Caroline Machado, J?ssica Carolinne Damasceno, Jordan Isenberg, Lase Rondon Lopes, Bernardo Hime, Bruno F Fernandes, Marcia Lowen, Luis Marcelo Aranha Camargo, Rubens N Belfort

**Purpose:** The present study was performed to characterize the prevalence of eyelid tumors at the Federal University of São Paulo's Hospital, identify the occurrence of cases of malignant eyelid tumors and to determine the relationship between sex and age in patients with these neoplasms.

**Methods:** All eyelid tumors operated between 2000 and 2012 at the Federal University of São Paulo's Hospital were retrospectively evaluated. Data including final anatomopathological diagnosis, sex and age were analyzed via &#967,<sup>2</sup> YATES.

**Results:** Of the 1113 eyelid tumors resected over the 13-year study period 324 (29%) single patient's lesions were malignant. Most prevalent lesions were basal cell carcinomas (BCC) followed by squamous cell carcinomas (SCC) and then sebaceous gland carcinomas (SGC). The median age of patients with a diagnosis of BCC, SCC and SGC was 65, 75 and 70 years respectively distributed across 165 (51%) females and 159 (49%) males.

**Conclusion:** This is the largest retrospective cohort analysis of Latin American eyelid tumors. Our findings are in agreement with those from large centers of other countries and regions. We hope that this study acts as best-practices encouragement to fellow physicians to send all specimens pathological for analysis and to continuously review their case load data from a public health. **Keywords:** tumors, eyelid, malignant, basal cell carcinoma, squamous cell carcinomas, melanoma, Brazil.

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**Purpose, Methods, Results,**  
**Conclusion.**

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

35. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Renato Sant Ana Albuquerque

**e-mail:** renato\_sant@hotmail.com

**Service:** (TU) TUMORS AND PATHOLOGY

**CEP Number:** 0115/07

5. ABSTRACT (REQUIRED):

**Title:** Indications for eye removal over a 13-year period at a Latin America's highest volume ophthalmology referral center in Sao Paulo, Brazil

**Author and Co-authors:** RENATO ALBUQUERQUE, BERNARDO HIME, JORDAN ISENBERG, GUSTAVO ROCHA, MARCIA LOWEN, MELINA MORALES, BRUNO F FERNANDES, RUBENS N. BELFORT

**Purpose:** To analyze the indications and types of eye removals at Latin America's highest volume ophthalmic reference center in Sao Paulo, Brazil.

**Methods:** A retrospective review of surgical pathological reports in the electronic database of the Ophthalmology Department of the Universidade Federal de São Paulo Hospital of patients who underwent eye removal procedures between January 2000 and December 2012 were analyzed.

**Results:** A total of 412 cases met the inclusion criteria for this study. The most common indications for eye removal were ocular melanoma and retinoblastoma, representing 35.4% and 31.1% of the total cases, respectively. Other frequent indications included endophthalmitis 6.3%, non-specific inflammation 4.1%, squamous cell carcinoma 3.6%, panophthalmitis 3.4%, and phthisis bulbi 1.2%. The remaining indications totaled 14.8% of all cases, with each accounting for less than 1% of the total. Enucleation was the most common eye removal procedure seen in our study, followed by evisceration and exenteration, respectively.

**Conclusion:** The two most common indications for eye removal at Brazil's ophthalmology reference center were ocular melanoma and retinoblastoma. Alternative treatment options are effective in limiting the need for eye removal but are constrained by our public center's socioeconomic context.

**Keywords:** enucleation, exenteration, evisceration, melanoma, retinoblastoma, Latin America

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**Purpose, Methods, Results,**  
**Conclusion.**

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

36. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Alexandre Xavier da Costa

**e-mail:** dr.alexandre.x@gmail.com

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

**CEP Number:** 4305000

5. ABSTRACT (REQUIRED):

**Title:** Potential contamination of drops when eyedrops are instilled in different positions

**Author and Co-authors:** Alexandre Xavier da Costa, Maria Cecilia Zorat Yu, Denise de Freitas, José Álvaro Pereira Gomes

**Purpose:** To evaluate the potential contamination of the drops instilled in different positions, in vials that had the outside of the tip contaminated with bacterial solution

**Methods:** We evaluated 3 bottles of 5 brands of lubricant eyedrops (Lacrifilm, Hyabak, Optive, Systane UL and Hylo Comod) and the way in which the drop forms and detaches from the vials.

It was used a sterile swab soaked in aqueous solution of Pseudomonas aeruginosa exclusively on the outside of the tip to simulate a contamination of the exterior of the vial. Some drops were collected with the bottle inverted to 90° and to 45° in individual chocolate agar culture plates for each contaminated flask. Each plate was analyzed for bacterial growth.

**Results:** None of the 15 tested bottles had bacterial growth in drops collected prior to contamination, when opening a sealed bottle. After the contamination of the outside of the eyedrops tips, we observed bacterial contamination in 7 (46%) in both inclinations of 90 and 45 degrees.

**Conclusion:** In the search for standardizing an ideal eyedrop bottle, this study suggests that the dripping mechanism should be made in a way to ensure that the drop formed does not flow to the side of the bottle tip, avoiding any contact with the outside of the vial before it reaches the eye.

**Keywords:** eyedrop, contamination, drop formation, drop contamination



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

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

37. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Joyce Luciana Covre

**e-mail:** joycecovre@gmail.com

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

**CEP Number:** 1388085

5. ABSTRACT (REQUIRED):

**Title:** Evaluation of the effects of fast crosslinking on keratocytes cultured in 3D model

**Author and Co-authors:** Joyce Luciana Covre, Renata Ruoco Loureiro, Cristiane Damas Gil, Mauro Campos, José Álvaro Pereira Gomes

**Purpose:** Culture keratocytes of healthy corneas and keratoconus corneas to compare the extracellular matrix and keratocytes culture in 3D model to evaluate the effect of fast crosslinking in vitro.

**Methods:** keratocytes will be obtained from healthy corneas, keratoconus corneas and the remaining corneal-scleral rims previously used in corneal transplant surgery at the Surgical Center of the Department of EPM / Ophthalmology. Cells will be cultured in suspension by enzymatic digestion and in 3D model, which will be exposed to ultraviolet light and riboflavin, to be evaluated cellular metabolism, extracellular matrix and the effect of UV light and riboflavin (Crosslinking). The healthy corneas and keratoconus corneas will be structural analysis by RAMAN microscopy.

**Results:** Morphological analysis of corneal stromal cells prepared by enzymatic digestion were observed to have dendritic morphology after approximately 3 weeks culture in DMEM/F12 medium containing 2% FBS.

The analysis by immunofluorescence was used for cell characterization. All cultures had negative for the marker of epithelial cells (CK3). The cells showed negative markers for fibroblasts (Thy 1) and myofibroblasts (Î±-sma) and positive only when we used the keratocytes marker (lumican).

**Conclusion:** Our initial experiments showed that keratocytes culture prepared by enzymatic digestion and DMEM/F12 medium containing 2% SBF decrease the culture time and the cells remain more undifferentiated.

The analysis by immunofluorescence confirm that the cells were maintained quiescent during the culture. This staining revealed that the culture keratocytes was successfully obtained.

**Keywords:** Keratocytes, culture cells, extracellular matrix, keratoconus, crosslinking.

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38. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Gustavo Souza Moura

**e-mail:** oftalmosergipe@gmail.com

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

**CEP Number:** 647550/14

5. ABSTRACT (REQUIRED):

**Title:** Tear inflammatory mediators in patients with keratoconus. A pilot study

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

**Purpose:** This study aims to characterize the tear film immunologic profile in keratoconus patients. Correlate the immunologic profile with keratometric measurements and with disease progression or stability over time

**Methods:** Tear samples were collected using a capillary tube and stored at -80°C before analysis in keratoconus patients and in normal patients (control group). Tear cytokines' levels were measured using the Cytometric Bead Array system (CBA), following the method suggested by the manufacturer. Keratometric measurements were used as a diagnostic tool for ectatic disease as well as to identify cases of disease progression. Disease progression was defined as an apical keratometric increase of 0.75 D in 6 months evaluation. Correlations between cytokines profile, keratometric measurements and disease status will be analyzed longitudinally in the keratoconus group. Cytokines profiles were compared between keratoconus and control group

**Results:** We expect to characterize the tear film immunologic profile in keratoconus patients comparing to a control group and also to establish a correlation between the level of inflammatory cytokines and disease status (keratometric measurements, progression or stability). A pilot study was performed analyzing the tear level of IFN-gamma, TNF, IL-10, IL-4 and IL-2 cytokines in keratoconus patients, in the control group and in patients with progressing keratoconus. The mean concentration (pg/ml) of these proteins was lower in the control group compared to keratoconus patients 7.03 x 16.82 for IFN gamma, 5.52 x 15.54 for TNF, 7.65 vs 16.34 for IL-10, 7.84 vs 16.32 for IL-4, 17.63 vs 31.47 for IL-2. The level of these cytokines were higher in progressing keratoconus patients than in non-progressing keratoconus patients

**Conclusion:** Preliminary results from this pilot study demonstrated that inflammation might be involved in the pathogenesis of keratoconus as well as in disease progression. However, a larger sample needs to be evaluated in order to validate these data

**Keywords:** tear, inflammatory mediators, keratoconus

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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**(CO) CORNEA AND EXTERNAL DISEASE**

39. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Nicolas Cesário Pereira

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

**CEP Number:** 50930015

3. PRESENTATION PREFERENCE (REQUIRED) Check one:

**Paper**

5. ABSTRACT (REQUIRED):

**Title:** Comparison of Descemet membrane endothelial keratoplasty pressurizing and without pressurizing the anterior chamber with an air bubble

**Author and Co-authors:** Nicolas Cesário Pereira, MD Coauthors: Adriana dos Santos Forseto, MD, PhD, Heanes Troglío Pfluk, MD, Andr? Jerez Rezala MD, José Álvaro Pereira Gomes, MD, PhD

**Purpose:** To compare the results and re bubbling rates of Descemet Membrane Endothelial Keratoplasty (DMEK) using an air bubble to fixate the graft, pressurizing and without pressurizing the anterior chamber at the end of the procedure.

**Methods:** Randomized prospective study, with the group one that underwent DMEK using an air bubble to fixate the graft, pressurizing at the end of the procedure. Group two underwent DMEK using an air bubble to fixate the graft without pressurizing at the end of the procedure. Clinical results, re bubbling rates and complications were described.

**Results:** 43 patients were included, 22 patients in group 1 and 21 in group 2. There was 1 patient requiring re bluble in group 1 (4,5%) and 3 patients requiring re bluble in group 2 (14,3%). No primary graft failure or pupillary block were observed. One patient was present with high intraocular pressure in the first postoperative day and the air bubble was partially released to lower the pressure.

**Conclusion:** When performing DMEK, pressurizing the anterior chamber with an air bubble reduces the re bubbling rates.

**Keywords:** Endothelial keratoplasty, DMEK

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**Title**  
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**Purpose, Methods, Results,**  
**Conclusion.**

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**(CO) CORNEA AND EXTERNAL DISEASE**

40. FIRST (PRESENTING) AUTHOR (REQUIRED):

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

**CEP Number:**

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**Purpose, Methods, Results,**  
**Conclusion.**

Poster guidelines:  
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5. ABSTRACT (REQUIRED):

**Title:** Patients with multiple sclerosis demonstrate reduced subbasal corneal nerve fiber density

**Author and Co-authors:** Mikolajczak J, Zimmermann H, Kheirkhah A, Kadas EM, Oberwahrenbrock T, Muller R, Ren A, Kuchling J, Dietze H, Prss H, Paul F, Hamrah P, Brandt AU

**Purpose:** This study aims to investigate the effect of multiple sclerosis (MS) on corneal nerve fibres and dendritic cells in the subbasal nerve plexus using in vivo confocal microscopy (IVCM).

**Methods:** We measured the corneal nerve fibre and dendritic cell density in 26 MS patients and matched healthy controls using a Heidelberg Retina Tomograph with cornea module. Disease severity was assessed with the Multiple Sclerosis Functional Composite, Expanded Disability Status Scale, visual acuity and retinal optical coherence tomography.

**Results:** We observed significant reduction in total corneal nerve fibre density in MS patients compared to controls. Dendritic cell density was similar in both groups. Reduced total nerve fibre density was associated with worse clinical severity but not with previous clinical trigeminal symptoms, retinal neuro-axonal damage, visual acuity or disease duration.

**Conclusion:** Corneal nerve fibre density is a promising new imaging marker for the assessment of disease severity in MS and should be investigated further.

**Keywords:** cornea, multiple sclerosis, in vivo confocal microscopy

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**(CO) CORNEA AND EXTERNAL DISEASE**

41. FIRST (PRESENTING) AUTHOR (REQUIRED):

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

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**Conclusion.**

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5. ABSTRACT (REQUIRED):

**Title:** Vision-related quality of life in patients with ocular graft-versus-host disease

**Author and Co-authors:** Ujwala S. Saboo, Francisco Amparo, Tulio B. Abud, Debra A. Schaumberg and Reza Dana

**Purpose:** To assess the vision-related quality of life (QOL) in a cohort of patients with ocular graft-versus-host disease (GVHD).

**Methods:** In this prospective study, eighty-four patients diagnosed with chronic ocular GVHD had the vision-related QOL assessed with the 25-item National Eye Institute Visual Function Questionnaire (NEI-VFQ-25). The symptoms of ocular GVHD were assessed using the Ocular Surface Disease Index (OSDI) and Symptom Assessment in Dry Eye (SANDE) questionnaires.

**Results:** The mean composite NEI-VFQ-25 score in patients with ocular GVHD was 76.5±17. Compared with healthy subjects, patients with ocular GVHD reported reduced scores on all NEI-VFQ-25 subscales (each P <0.001) with the exception of color vision (P= 0.11). The NEI-VFQ-25 composite scores significantly correlated with OSDI (R= -0.81, P < 0.001), SANDE (R= -0.56, P < 0.001), CFS (R= -0.36, P <0.001), and BCVA(R= -0.30, P= 0.004).

**Conclusion:** Patients with ocular GVHD experience measurable impairment of vision-related QOL. This

study highlights the impact of ocular GVHD on the vision-related QOL, and thus the importance of comprehensive diagnosis and treatment of this condition.

**Keywords:** Graft-versus-host disease, dry eyes, ocular surface disease

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

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42. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Katiane Santin

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**Service:** (LA) LABORATORY

**CEP Number:**

5. ABSTRACT (REQUIRED):

**Title:** Molecular typing and antimicrobial resistance of ocular methicillin-resistant Staphylococcus aureus

**Author and Co-authors:** Paulo Jose Martins Bispo, Smairah Frutuoso Abdallah, Roberta Cristina Cabral Mingrone, Marcus Vinicius Gaspari, Antonio Carlos Campos Pignatari, Ana Luisa Hofling-Lima

**Purpose:** To evaluate the molecular epidemiology and antimicrobial resistance profile of methicillin-resistant Staphylococcus aureus (MRSA) isolated from conjunctivitis, keratitis, dacryocystitis and blepharoconjunctivitis.

**Methods:** 42 MRSA isolates from patients treated at the Visual Sciences and Ophthalmology Department, Federal University of Sao Paulo from January 2007 to May 2013 were included. PCR to nuc, mecA and luk genes was performed in order to confirm species identification, methicillin resistance and presence of the Panton-Valentine leukocidin (PVL). Staphylococcal Cassette Chromosome (SCCmec) typing was assessed by multiplex PCR. Macrorestriction profile of chromosomal DNA was performed by pulsed field gel electrophoresis (PFGE). Minimum inhibitory concentration (MIC) to oxacillin, ciprofloxacin, moxifloxacin, gatifloxacin, linezolid and vancomycin was determined by E-test.

**Results:** SCCmec type IV (40.5%) and type II (35.7%) were the most prevalent. MRSA type IV grouped in 4 different clusters by PFGE, while type II isolates formed only 2 clusters, with 73.3% belonging to the cluster A. Only 1 isolate was SCCmec type I, 2 type V, 3 type III, and 4 were non-typable. MRSA types IV and V were most frequently recovered from conjunctivitis (58.8%) and presented higher susceptibility to the fluoroquinolones compared with types I, II and III. MRSA type II were predominant in keratitis (80%) and were 100% resistant to the fluoroquinolones tested. MRSA type III were recovered from previously hospitalized patients and were all related to the brazilian epidemic clone. All isolates were susceptible to vancomycin and linezolid. All specimens were negative for the presence of luk gene.

**Conclusion:** MRSA types IV and V usually correlated to community-acquired infections (CA-MRSA) were the most susceptible to fluoroquinolones. We demonstrated that SCCmec types II and III, which are mainly associated with hospital-acquired infections (HA-MRSA), may be causative agents of ocular infections. The last were susceptible only to vancomycin and linezolid.

**Keywords:** Staphylococcus aureus, MRSA, MLST, antimicrobial resistance



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**Purpose, Methods, Results,**  
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43. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Rossen Mihaylov Hazarbassanov

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

**CEP Number:** 2846

5. ABSTRACT (REQUIRED):

**Title:** Dermatological alterations in dry eye disease

**Author and Co-authors:** Rossen Mihaylov Hazarbassanov, Nicolle Queiroz-Hazarbassanov, Luciana M. Vasquez-Pinto, Marcello M. Amaral, Jose Alvaro P. Gomes, Mauro Campos

**Purpose:** To investigate skin changes in clinically diagnosed dry eye disease (DED) patients and matching controls.

**Methods:** Cross-sectional non-interventional study involving 57 women aged 45 to 59 years. Patients were divided into 2 groups: 19 aqueous deficient dry eye (ADDE), 19 evaporative dry eyes (EDE), and age matching control group was composed of 19 non-DED participants. Ophthalmological exams included: Ocular Surface Disease Index (OSDI), Schirmer1, Meibomian gland evaluation, tear film osmolarity, tear break-up time (TBUT), corneal fluorescein and lissamine green staining, and impression cytology(IC). Following, measurements of skin transepidermal water loss (TEWL), corneometry, cutometry and sebumetry were taken. ROC curves were applied to evaluate the ability of dermatological tests to differentiate controls, ADDE and EDE patients.

**Results:** Lower TEWL values were found in EDE than ADDE patients (ANOVA-Tukey,  $p < 0.01$ ), whereas sebum production was lower in ADDE patients than non-DED (ANOVA-Tukey,  $p < 0.05$ ). ROC curves of TEWL and sebumetry could discriminate EDE from control (sensitivity: 63.2%, specificity: 68.4%) and ADDE from control (sensitivity: 52.6%, specificity: 84.2%), respectively. Both could differentiate ADDE from EDE (TEWL, sensitivity: 63.2%, specificity: 79.0%, Sebumetry, sensitivity: 63.2%, specificity: 63.2%).

**Conclusion:** Transepidermal water loss and sebum production are altered in DED patients and might be helpful in ADDE and EDE subtypes differential diagnose

**Keywords:** aqueous deficient dry eye, evaporative dry eyes, skin transepidermal water loss, corneometry, cutometry, sebumetry

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**(CO) CORNEA AND EXTERNAL DISEASE**

44. FIRST (PRESENTING) AUTHOR (REQUIRED):

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

**CEP Number:** 98700000

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**Purpose, Methods, Results,**  
**Conclusion.**

Poster guidelines:  
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5. ABSTRACT (REQUIRED):

**Title:** Evaluation of conjunctival bacterial flora in patients with Stevens-Johnson syndrome

**Author and Co-authors:** Luciana Frizon, Marília C Araújo, Larissa Andrade, Maria Cecilia Zorat Yu, Tais Hitomi Wakamatsu, Ana Luisa Hofling-Lima, José Álvaro 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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**Title**  
**Author, Co-authors (maximum 6),**  
**Purpose, Methods, Results,**  
**Conclusion.**

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

45. FIRST (PRESENTING) AUTHOR (REQUIRED):

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

**CEP Number:** 0112/2016

5. ABSTRACT (REQUIRED):

**Title:** Comparison of deep anterior lamellar keratoplasty and penetrating keratoplasty for the treatment of keratoconus at Hospital Sao Paulo in 2014

**Author and Co-authors:** Geraldo Andrade Marques, Eduardo G. Muller, Luiz Brito, Pablo Rodrigues, Marcelo Tojar

**Purpose:** Penetrating keratoplasty (PKP) has been considered the gold standard for the treatment of advanced keratoconus for decades due to its safety and good visual acuity outcomes [1,2]. However, full-thickness replacement of the cornea is often associated with a risk of immune-mediated endothelial rejection, endothelial cell loss and complications such as expulsive hemorrhage and endophthalmitis [3,4,5,6]. The main drawback of PKP is that the host endothelium is replaced by allogeneic tissue, even in cases that originally had normal endothelial cell density.

Deep anterior lamellar keratoplasty (DALK) has become the alternative procedure to PKP by replacing the anterior lamellae of the recipient's cornea maintaining its Descemet's membrane (DM) and endothelium, thus reducing the risk of endothelial graft rejection [7]. DALK is still not the first choice of surgery for many surgeons due to the difficult technique and longer surgery time compared to PKP.

**Objective:** To evaluate the difference of visual acuity and complication rates between DALK and PKP the treatment of keratoconus at Hospital São Paulo in 2014.

**Objective:** To evaluate the difference of visual acuity and complication rates between DALK and PKP the treatment of keratoconus at Hospital São Paulo in 2014.

**Methods:** Retrospective study by analyzing the charts of patients with keratoconus who underwent PKP and DALK in 2014 at Hospital São Paulo. The study included 67 eyes of 67 patients. The variables analyzed were: age, sex, best corrected preoperative and postoperative visual acuity (3, 6 and 12 months) and intra- and postoperative complications.

**Results:** A total of 309 corneal transplants were performed, being 67 (21.6%) for the treatment of keratoconus, 34 (50.7%) were men and 33 (49.3%) women. The recipients' age ranged from 13 years to 49 years, with an average of 20.9 years. A total of 55 (82%) PKP and 12 DALK (18%) were performed, 12 prior indications of DALK were converted to PKP in the intraoperative moment, therefore representing a 50% conversion rate. 33 (60%) of the 55 PKP achieved best corrected visual acuity (BCVA) greater than or equal to 20/40 and 7 (58%) of the 12 DALK achieved BCVA equal to or better than 20/40. 12 (21.8%) PKP patients had at least one episode of rejection and there was no rejection in the cases of DALK.

**Conclusion:** In 2014 PKP was still the main choice of treatment for keratoconus, but considering its safer profile, DALK seems to be a better alternative. BCVA were similar after DALK and PK, however, graft rejection was only present after PKP. DALK is technically challenging, however it may guarantee a better post operative period, theoretically free from endothelial immune rejection.

**Keywords:** Deep anterior lamellar keratoplasty, Penetrating Keratoplasty, Keratoconus

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- (TR) TRAUMA
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- (UV) UVEITIS
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Deadline: 11/2016

**FORMAT:**

Abstract should contain:

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

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

46. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (RS) REFRACTIVE SURGERY

**CEP Number:** 250924

5. ABSTRACT (REQUIRED):

**Title:** Artificial intelligence application's to detect corneal ectasia

**Author and Co-authors:** Bernardo T. Lopes, Allan C. Luz, Marcella Q. Salomao, Renato Ambrósio Jr.

**Purpose:** To develop an enhanced method for detecting corneal ectasia based on artificial intelligence (AI) methods for processing 3D corneal tomography data

**Methods:** Participants: A total of 1034 patients from three clinics at different continents were studied. One eye randomly selected from 678 patients with normal stable corneas (Normal) and 204 patients with bilateral keratoconus (KC) were included. The normal topography eye from 94 patients with very asymmetric ectasia (NT-VAE) and the preoperative data of 58 eyes from 90 patients that developed post-Lasik ectasia were also analyzed.

**Main Outcomes Measures:** Accuracy in NT-VAE and KC detection.

**Methods:** Pentacam HR (Oculus, Wetzlar, Germany) parameters derived from corneal thickness, front and back elevation, asphericity and curvature were extracted. The data was processed and analyzed for machine-learning AI with validation methods. The pentacam random forest index (PRFI) was described. The output values were generated as a continuous number ranging from 0 to 1. ROC curves were used to assess accuracy of the output parameters.

**Results:** The PRFI was the most accurate method for detecting ectasia.

A threshold value of 0.5 classified correctly 100% of normal cases and 100% of KC cases. A threshold of 0.115 classified correctly 92.5% of NT-VAE and 89.6% post-Lasik ectasia patients. This threshold misclassified only 5.8% normal corneas.

**Conclusion:** The PRFI was virtually perfect for the identification of clinical ectasia and highly sensitive for detecting sub-clinical (fruste) ectasia among eyes with normal topography in very asymmetric cases. Ectasia susceptibility was assessed among LASIK candidates that developed ectasia, but integration with surgical parameters (ie. Flap/ablation depth) is needed to assess ectasia risk.

**Keywords:** Ectasia, Keratoconus, Corneal Tomography

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**Purpose, Methods, Results,**  
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**90cm x 120cm**

47. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (RS) REFRACTIVE SURGERY

**CEP Number:** 4522010

5. ABSTRACT (REQUIRED):

**Title:** In-vivo analysis of corneal biomechanics using optical coherence elastography: a pilot study

**Author and Co-authors:** Vinicius S. De Stefano, MD, Matthew R. Ford, PhD, Ibrahim Seven, PhD, Wallace Chamon, MD, PhD, William J. Dupps, PhD, MD.

**Purpose:** To describe the methods of a novel technique to assess corneal biomechanics using optical coherence elastography in-vivo and describe the results thus far.

**Methods:** A corneal elastography technique based on optical coherence tomography (OCT) imaging was used, in which displacement of intracorneal speckle features is tracked with a 2-D cross-correlation algorithm. Displacement is achieved using a flat lens attached to the OCT system. Lastly, two force sensors attached to the lens measure the amount of force necessary to displace the cornea in real-time. After the OCT images are processed and cross-correlation data is analyzed, a inverse finite element approach is used to determine corneal biomechanical characteristics.

**Results:** Six eyes from three subjects were used in this pilot study. The initial cross-correlation data appear to be within a satisfactory range, based on previous work from the same study group. A graph of force vs. displacement is presented to illustrate the initial results acquired, showing that, for the same amount of stress applied to the cornea, the anterior and posterior segments of the tissue behave distinctly. Inverse finite element models results are still under analysis.

**Conclusion:** Optical Coherence Elastography is a feasible and non-invasive method to assess corneal biomechanics. After all analyses are complete, it will be possible to compare different aspects of corneal biomechanics under different conditions, helping surgeons understand corneal behavior after refractive procedures and in ectatic disease, such as keratoconus.

**Keywords:** elastography, corneal biomechanics, finite element analysis, refractive surgery, keratoconus



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**Conclusion.**

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

48. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (CA) CATARACT

**CEP Number:** 630090

5. ABSTRACT (REQUIRED):

**Title:** Comparison of biometry and intraocular lens power calculation performed by a new optical biometry device and a reference biometer

**Author and Co-authors:** Bruna V Ventura, Marcelo C Ventura, Li Wang, Douglas D Koch, Mitchell P Weikert, Rubens Belfort Jr

**Purpose:** To compare biometry measurements and intraocular lens (IOL) power calculations obtained by a new optical A-scan interferometer biometer (Galilei G6, Ziemer Ophthalmic Systems AG, Port, Switzerland) (new biometer") and a partial coherence interferometer biometer (IOLMaster 500, Carl Zeiss AG, Oberkochen, Germany) ("reference biometer")."

**Methods:** This retrospective comparative study included 8203, cataract patients who had undergone biometric measurements with the reference biometer and the new biometer. Comparisons were performed for axial length (AL), keratometry, anterior chamber depth (ACD), and IOL power calculation to reach emmetropia with a SN60WF IOL (Alcon Laboratories Inc., Fort Worth, Texas) using the Haigis formula. The Pearson correlation coefficient and the 95% limits of agreement (LoA) were calculated. The paired Student's t test and the Wilcoxon test were used to assess differences between devices.

**Results:** Eighty-eight eyes (88 patients) were studied. Both biometers provided statistically similar mean IOL power to reach emmetropia, AL, keratometry, and ACD measurements ( $P > .05$ ). The differences in these variables did not vary as their mean values increased, and there was a strong positive correlation between the values obtained by both devices for each of the variables. The 95% LoA values for AL, mean keratometry, ACD and IOL power were 0.27 mm, 1.08 D, 0.66 mm and 1.56 D, respectively.

**Conclusion:** Both devices were comparable with regards to mean IOL power, mean AL, keratometry, and ACD measurements. However, the wide range of differences between the devices suggests they should not be used interchangeably.

**Keywords:** Biometry, cataract surgery



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

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

49. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**e-mail:** emanuela.crg@gmail.com

**Service:** (BE) OCULAR BIOENGINEERING

**CEP Number:** 20491913

5. ABSTRACT (REQUIRED):

**Title:** How design, font size and linguistic aspects influence gaze patterns in skilled readers

**Author and Co-authors:** GONÇALVES, E.C.R, SCHOR, P, NAVARRO, Martina, JUNIOR, Antonio C S Junior, MANCINI, Felipe

**Purpose:** The goal is to provide a broad based theoretical synthesis and an experimental study to discuss the influence of design, print size and linguistic aspects skilled readers' gaze patterns.

**Methods:** Three reading charts were presented MNREAD - P1L\* (one-line sentence), MNREAD - P3L\* (three-line sentence) and a Numerical Reading Chart (NCREAD) in which three numbers were clustered together and should be read as a centesimal number. All charts had 13 sentences and were randomly presented in a 19 inches LCD monitor (HP Compaq LA1951g, 1280x1024 resolution at 75Hz).

15 skilled readers performed the reading tests, they had normal vision acuity. The distance from the screen was 40cm. Voice data was recorded using Macintosh. It was used a low-cost eyetracker developed by Pupil Labs UG (Berlin, Germany) and made by Dev Tecnologia (São Paulo, Brazil). This ET has a frequency of 120 Hz and a scene resolution of 30Hz, 1080p.

The parameters analyzed were: duration of fixations (dur), number of fixations (nf) start frame (sf), end frame (ef), norm-pos-x (fixation' x - axis), norm-pos-y (fixation' y - axis). An script in Python was wrote in order to generate automatically dur and nf in according to sf and ef defined by the researcher.

**Results:** Duration of fixations and number of fixations were analyzed for each sentence of the three charts. It was used a paired t-test to analyze the difference between MNREAD-P1L and MNREAD-P3L and MNREAD-P1L and NCREAD. When considering "dur" and "nf" there was no statistical difference between MNREAD-P1L and MNREAD-P3L ( $p > 0,005$ ). However, when taking into account "dur" and "nf" there was a huge statistical difference between MNREAD-P1L and NCREAD ( $p < 0,005$ ). Individual "nf", "dur" and normalized curves for "norm-pos x" and "norm-pos y" will be presented for each reading chart."

**Conclusion:** This study shows that the crowding effect do not seems to interfere too much in the "nf" and "dur" in skilled readers when analyzing MNREAD P1-L and MNREAD P3-L. This also highlights the importance of evaluating the normalized curves for x and y axis fixations, regressions, saccades. The difference in "nf" and "dur" between MNREAD-P1L and NCREAD reflects the cross language differences according to the linguistic system (i.e., the alphabetic Romance language).

**Keywords:** Reading, gaze patterns, eyetracker

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

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

50. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Ana Luiza Fontes de Azevedo Costa

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**Service:** (BE) OCULAR BIOENGINEERING

**CEP Number:** 5409011

5. ABSTRACT (REQUIRED):

**Title:** Multisensory eyedrop bottle sleeves to help patients with visual impairment

**Author and Co-authors:** ANA LUIZA FONTES DE AZEVEDO COSTA, THIAGO GONÇALVES DOS SANTOS MARTINS, PAULO SCHOR

**Purpose:** To develop prototypes of eyedrop bottle sleeves suitable for common eyedrops in order to facilitate the identification of eyedrops.

**Methods:** The sleeves are made of flexible material with different textures and odors adaptable to most eyedrop bottles available on the market nowadays. We randomly selected 31 healthy volunteers to participate in a test which consists on presenting four different eyedrop bottles in four different situations. First we presented the regular eyedrops for the volunteers to have contact with. Then they were blindfolded and asked to identify the different eyedrop bottles. After that, we presented the same eyedrop bottles, now with the different texture sleeves on, and they had to identify each one while blindfolded. Then we presented the eyedrop bottles with the different odor sleeves, blindfolded them and asked them to identify. Last of all, we presented the four eyedrops with texture and odor sleeves for them to identify while blindfolded.

**Results:** From the total of 31 volunteers, 42% were men and 58% women, aged from 20 to 90 years old. The success rate of identification without the sleeves was 19%, and went up to 94% with the sleeves with different odors, 97% with different textures and 99% with both. Patients preferred the special sleeves with textures (58%) rather than just with odors (6%) or both (36%).

**Conclusion:** The use of the special sleeves with textures and odors increased the chance of identifying the eyedrop bottles. Using the intact senses of patients with visual problems could help avoid eyedrop misidentification, a practice common not only for patients with visual impairment, but also for patients who use more than one eyedrop.

**Keywords:** eyedrops, multisensory, special sleeves

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

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

51. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (GL) GLAUCOMA

**CEP Number:** 20260230

5. ABSTRACT (REQUIRED):

**Title:** Rebound tonometry versus Goldmann tonometry in school children: feasibility and agreement of intraocular pressure measurements

**Author and Co-authors:** Bruno L. B. Esporcatte, Flávio Siqueira Santos Lopes, Camila Fonseca Netto, Vespasiano Rebouças-Santos, Diego Torres Dias, Fábio Iglesias Marujo, Christiane Rolim-de-Moura

**Purpose:** High intraocular pressure (IOP) is an important risk factor for a variety of pediatric ophthalmic conditions. The purpose of this study is to evaluate the feasibility, length of examination, and corneal epithelial damage induced by rebound tonometry (RBT) versus Goldmann application tonometry (GAT) in school children.

**Methods:** Healthy children (n=57) participated in a randomized, transversal study with IOP measurement by GAT followed by RBT (study arm 1) or RBT followed by GAT (study arm 2). The number of attempts to acquire a reliable IOP measurement and the length of the examination were quantified. Corneal epithelial damage induced by tonometry was evaluated. Bland-Altman analysis was performed to establish the level of agreement between the two techniques.

**Results:** The IOP was measured in all children with at least one of the devices. In both study arms, more children failed to be examined with GAT than with RBT (26% vs. 4%, and 16% vs. 6%, p<0.001, in study arm 1 and 2, respectively). The length of examination was shorter for RBT than for GAT (67.81 s ± 35.20 s vs. 126.70 s ± 56.60 s, p<0.0001), IOP measurements with RBT in both study arms were higher than those with GAT (15.20 ± 2.74 mmHg vs. 13.25 ± 2.47 mmHg, p=0.0247 and 16.76 ± 3.99 mmHg vs. 13.92 ± 2.08 mmHg, p=0.003, respectively). No difference was observed between RBT and GAT regarding the corneal epithelial damage caused by tonometry.

**Conclusion:** IOP measurement is feasible in a greater number of children with RBT, and the examination was faster than that for GAT. Compared with GAT, RBT tended to overestimate the IOP. None of the methods induced marked corneal epithelial defects.

**Keywords:** Glaucoma diagnosis, Intraocular pressure, Rebound tonometry.

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**Purpose, Methods, Results,**  
**Conclusion.**

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

52. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Flávio Siqueira Santos Lopes

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**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 S Lopes, Igor Matsubara, Roberto M Vessani, Augusto Paranhos Jr, Tiago S Prata

**Purpose:** To use pre-laminar neural tissue thickness values obtained through EDI-OCT to build new structural indices for glaucoma assessment

**Methods:** We prospectively enrolled glaucomatous patients and healthy individuals. All participants underwent EDI OCT imaging and visual field. The following optic nerve head (ONH) parameters were measured on serial vertical EDI OCT B-scans: lamina cribrosa (LC) and prelaminar neural tissue (PLNT) thicknesses, Bruch's membrane opening (BMO) and cup depth. Only good quality images were considered.

**Results:** A total 64 eyes of 64 patients were included. Eyes with glaucoma had significantly lower mean LC and PLNT thicknesses values, and greater mean cup depth values than controls ( $p < 0.01$ ). There was a significant negative association between PLNT thickness and cup depth in glaucomatous eyes ( $R^2 = 0.158$ ,  $p = 0.029$ ). In addition, LC thickness correlated significantly with cup depth ( $R^2 = 0.135$ ,  $p = 0.045$ ), eyes with thinner LCs presenting deeper cups.

**Conclusion:** In vivo assessment of ONH structures revealed significant associations between cup depth and LC and PLNT. Eyes with deeper cups not only had less neural tissue, but also thinner LCs, independent of disc size and axial length. Best reproducibility results were found for prelaminar parameters compared to deeper ONH structures.

**Keywords:** glaucoma, OCT, EDI

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**Conclusion.**

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

53. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Cristina C. Coimbra Cunha

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**Service:** (EP) EPIDEMIOLOGY

**CEP Number:** 824272

5. ABSTRACT (REQUIRED):

**Title:** Presbyopia and near vision impairment in older adults from Parintins: The Brazilian Amazon Region Eye Survey (Bares)

**Author and Co-authors:** Cristina C. Cunha, Sérgio Munoz, João M. Furtado , Nívea N. Cavascan, Adriana Berezovsky, Mauro Campos, Marcos J. Cohen, Jacob M. Cohen, Rubens Belfort, Jr., Solange R. Salomão

**Purpose:** To estimate the prevalence of near vision impairment and presbyopia in older adults from urban and rural areas of Parintins city, Brazilian Amazon Region

**Methods:** Study Site and Sample

The Brazilian Amazon Region Eye Survey (BARES) is a population-based, cross-sectional epidemiological study to determine the prevalence of vision impairment and blindness for near and distance in adults 45 years and older.

The study area is the city of Parintins. This city is located in the Brazilian Amazon Region on the sides of the Amazon River and counts with a population of 102,000

Twenty clusters (14 urban and 6 rural) were randomly selected from 154 census sectors.

Subjects were enumerated through a door-to-door survey and those with ages 45 years and older were invited for ophthalmic assessment.

The study protocol was approved by UNIFESP's Committee on Ethics in Research. Clinical Eye Exam

Uncorrected (UCNVA), present (PNVA) and best-corrected (BCNVA) near visual acuity was measured in each eye at 40 cm using a logMAR near vision tumbling E chart followed by an ocular examination.

Additional lenses were tested for near in those with uncorrected near visual acuity <math>\leq 804,20/40</math>.

Presbyopia was considered as the main cause of near vision impairment when uncorrected near vision was 20/40 or worse improving to best-corrected near vision of better than 20/40.

**Results:** A total of 2383 eligible persons were enumerated and 2042 (85.7%) were examined.

Near vision impairment (UCNVA <math>\leq 804,20/40</math>) prevalence was 96.4% [95% Confidence Interval (CI): 95.4% -<math>8208, 97.3\%</math>]. PNVA impairment was 81.2% [95% CI: 77.7-<math>8208,84.3</math>].

Presbyopia as main cause of near vision impairment was found in 76.0% [95% CI: 73.8% -<math>8208, 78.1\%</math>].

For UCNVA, PNVA and presbyopia a multiple logistic regression model was adjusted using age, gender, education and geographic area of residence as predictors.

Higher educational level was significantly associated with near vision impairment both UCNVA and PNVA. Those with more education had less impairment.

Presbyopia was significantly associated with higher education.

Age was associated with UCNVA, PNVA and presbyopia. For uncorrected impairment 65-74 age group the odds is almost half compared to the younger group. The odds of PNVA in the group <math>\leq 805,75</math> is three times higher to the younger group. For presbyopia the older the age the smaller the odds.

Principal causes in eyes with near vision impairment besides presbyopia were cataract, pterygium, other retinal disorders, glaucoma and age-related macular degeneration.

**Conclusion:** High prevalence of NVI, most of it optically correctable was found in this population. Other ocular conditions such as cataract and pterygium were principal causes of NVI mainly in the older participants.

Health authorities should consider initiatives to improve the access to near glasses and eye care campaigns to minimize the effects of NVI.

**Keywords:** near vision impairment, presbyopia, Amazon Region



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**Conclusion.**

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54. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Claudia Osório Chaves

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**Service:** (EP) EPIDEMIOLOGY

**CEP Number:** 940092

5. ABSTRACT (REQUIRED):

**Title:** Visual impairment and blindness in very elderly residents of Maués, Amazonas

**Author and Co-authors:** Cláudia Maria Osório Chaves, Marcela Colussi Cypel, Rubens Belfort Jr and Solange Rios Salomão

**Purpose:** To determine the frequency and causes of visual impairment/blindness in very elderly residents of urban areas from the city of Maués, AM.

**Methods:** This is an ongoing observational study in which all residents of urban Maués will be invited for a comprehensive eye exam along with a questionnaire to describe nutritional habits. Distance and near uncorrected, presenting and best-corrected visual acuities were taken. Additional tests as intraocular pressure measurement, biomicroscopy and indirect ophthalmoscopy were also performed. If necessary glasses prescription, surgery or other kinds of treatment were provided.

**Results:** A group of 377 participants were examined, with 301 (79.84%) aged 80-90 years, 71 (18.83%) aged 91-100 years and 5 (1.32%) centenarians. From the total of patients 37 (9.81%) shown presenting distance visual acuity > 20/40. After refraction exam considering the best-corrected visual acuity 59 (16%) of participants had vision > 20/40. Presenting distance vision was less than 20/200 considering the better-vision eye in 207 (55%) participants. The main cause of visual impairment/blindness were cataract in 393 (57%), age-related macular degeneration in 74 (10.7%), other retinal disorders in 8 (1.2%), corneal opacities in 24 (3.5%), glaucoma in 25 (3.6%) and other causes in 87 (12.6%).

**Conclusion:** A high prevalence of visual impairment and blindness was detected in this convenience sample of very elderly people in the city of Maués. In this preliminary analysis it was evident the importance of refraction and prescription of adequate glasses.

**Keywords:** visual impairment, elderly, vision, blindness, aging



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**Conclusion.**

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55. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (PL) OCULOPLASTICS SURGERY

**CEP Number:** 691472

5. ABSTRACT (REQUIRED):

**Title:** Clinical and histopathological evaluation of fractional carbon dioxide laser resurfacing for the treatment of periocular photoaging

**Author and Co-authors:** Juliana de Filippi Sartori, Tammy Osaki, Rubens Belfort Junior, Norma Allemann

**Purpose:** BACKGROUND Fractional resurfacing is a laser treatment modality to create numerous microscopic thermal injury zones of controlled width, depth, and density that are surrounded by a reservoir of spared epidermal and dermal tissue, allowing rapid repair. 9. Resurfacing with CO2 sources and the use of auxiliary scanning systems represent the gold-standard in the treatment of facial photoaging. The effects caused by this type of technology include the elimination of the epithelium of the damaged surfaces, shrinkage of the collagen fibers (with consequent shrinking of the skin), and neocollagenogenesis. PURPOSE To evaluate the efficacy of fractional CO2 laser in the treatment of photo-damaged periorbital skin with clinical and histological evaluation. Also to evaluate change in quality-of-life post-treatment.

**Methods:** Prospective study enrolling nine female subjects with photo-damaged facial skin and dermatochalasis. The mean age was 56.5 +/- 7,5. Fitzpatrick skin types I to IV. Underwent one single treatment with-SmartXide DOT (DEKA-M.E.L.A., Calenzano, Italy) fractional CO2 laser device. Assessment of laser efficacy was made using two modalities: histologic examination of skin removed from blepharoplasty and blinded physician clinical photographic assessment. For the histologic portion of the study, treatment was administered to one side of the face in day one and the other side after thirty days. In day 30, patients had upper blepharoplasty performed before laser application. Clinical improvement and histologic changes were assessed.

**Results:** All subjects completed the study with no complications. Blinded evaluator and subject assessment documented improvement in clinical changes. Histological analysis is in progress.

**Conclusion:** Periorbital fractional CO2 laser resurfacing can lead to improvement in photodamaged palpebral skin. Histological and statistical analysis are in progress.

**Keywords:** Fractional CO2 laser, Dermatochalasis, Neo-collagenogenesis, Periorbital Rejuvenation, Resurfacing

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**Service:** (UV) UVEITIS  
**CEP Number:** 0

5. ABSTRACT (REQUIRED):

**Title:** OCT angiography - new insights into an ocular syphilis outbreak in Brazil  
**Author and Co-authors:** BORELLI IM, LOBOS CZ, ANDRADE GC, NASCIMENTO H, MUCCIOLI C

**Purpose:** The characteristics of ocular syphilis may mimic many ocular diseases and have been well described clinically, as well as with fluorescein angiography (FA), indocyanine green angiography and optical coherence tomography (OCT) findings. OCT angiography (OCT-A) is a novel and non-invasive technique for imaging retinal microvasculature by detecting changes, with respect to time, in reflectivity related to blood flow. This study aims to report the OCT-A features of ocular syphilis. **Methods:** In this prospective interventional case series study, 20 patients with ocular syphilis attended at the Ophthalmology Department of Federal University of Sao Paulo from March to October 2016. The patients were diagnosed based on clinical evaluation and results of both non-treponemal (rapid plasma reagin, RPR) and treponemal (T. pallidum particle agglutination, TPPA) serological exams. The patients underwent thorough ophthalmological examination and multimodal imaging, including OCT-A (Optovue RTVue XR AvantiR). All the patients were treated with ceftriaxone (2 - 4 g daily IV for 10-14 days). Patients whose compliance with therapy or follow-up could not be ensured were excluded, likewise those with features obscuring the OCT A image such as media opacities, retina detachment, severes cataract and vitritis. We herein describe the clinical manifestations, ancillary examination outcomes and new insights into ocular syphilis detected by OCT-A, comparing with usual exams. **Results:** The diagnosis of ocular syphilis was made in 20 patients, there were 12 male (60%) and 8 (40%) female, being the average age 45,60 years(range 17 - 80). Twelve patients (60%) with low treatment or follow up compliance (8), absence from scheduled examinations (2) and media opacities (2) were excluded, therefore, data for 16 eyes of 8 patients were analyzed (5 males and 3 females), average age 43,87 years (range 25 - 59). The most common complaint was blurring of vision and eye redness (87,5%) . Seven patients had bilateral involvement, while only one had unilateral involvement and was also HIV positive (12,5%). All of patients had ocular involvement as the initial manifestation, while one had simultaneous eye and ear involvements. One patient had palms and sole maculopapular rash. Bilateral non-granulomatous anterior uveitis was the most frequent clinical presentation (87,5%), other ocular findings were bilateral papillitis, multifocal choroiditis, chorioretinitis, acute posterior placoid chorioretinitis and retinal vasculitis. Nontreponemal serology screening positive (VDRL) in addition to ocular manifestations alone were sufficient to make the diagnosis of syphilis in all of them (100%). The therapy was ceftriaxone 2 g IV 14 days, except for the HIV-infected patient, who received 4 g a day. The treatment allowed a visual improvement of all the 8 patients. The OCT-A features found include nonperfusion area of the superficial and deep retina plexus and choriocapillaris, **Conclusion:** OCT-A provides non-invasive high resolution imaging of retinochoroidal vascular network in subjects with ocular syphilis. The OCT-A findings correlate with the hiperreflective dots noted on B-Scan and En face OCT. The findings corroborates a theory that ischemia of the choriocapillaris (present in many inflammatory and infectious diseases with posterior pole manifestations) may lead to the accumulation of subretinal metabolic residues (hiperreflective dots on En Face OCT) associated with low vision with improvement after specific treatment for syphilis. The technology to perform OCT-A is now commercially available and it seems to have the potential to increase our understanding of the ocular syphilis pathogenesis. Although, further studies are needed to determine this reliability and multidisciplinary efforts to reduce the dropout high rates may be helpful to achieve larger studies.

**Keywords:** ocular syphilis,uveitis, ocular inflammation, latent syphilis, oct angiography, optical coherence tomography angiography, ophthalmology, white dots

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57. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Camila Amaral Carvalho Cunha

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**Service:** (UV) UVEITIS

**CEP Number:** 457798152

5. ABSTRACT (REQUIRED):

**Title:** Outcomes after pars plana vitrectomy for retinal detachment associated with toxoplasmosis

**Author and Co-authors:** Camila Amaral C. Cunha, Gabriel C. Andrade, Cristina Muccioli

**Purpose:** To evaluate outcomes and complications of PPV in patients with retinal detachment secondary to toxoplasmosis retinochoroiditis

**Methods:** Retrospective evaluation of medical records between 2014 to 2015 who underwent pars plana vitrectomy for retinal detachment secondary to toxoplasmosis retinochoroiditis. The best-corrected visual acuity, macula affected or not, intra-operative and pos-operative complications were analysed. PPV and Phaco was performed in 13 eyes, scleral buckling with PPV and Phaco in 11 eyes, just PPV in 4 eyes. The vitreous substitute was gas in 2 patients and silicone oil in 26 patientes. All of them received postoperative prophylactic treatment with trimethoprim/sulfamethoxazole.

**Results:** Twenty-eight patients with 28 eyes, 19 women and 9 men, were include. Two of them had epiretinal membrane before the surgery. Mean follow-up period after surgery was 6,1 months. Preoperative mean best-corrected visual acuity was 1.30 (logMAR) and postoperative mean best-corrected visual acuity was 1.00 (logMAR). There were 3 intra-operatives complications, two of them were iatrogenic retinal breaks and one was vitreous hemorrhage. 13 patients had postoperative complications, 06 had OCP, 3 had retinal re-reatachment, 2 had retanaid perfluorcarbon liquid and one had vitreous hemorrhage.

**Conclusion:** The most common vitreoretinal complication associated with toxoplasmosis that required vitreous surgery observed in our series was retinal detachment. The majority of RD in individuals with ocular toxoplasmosis are rhegmatogenous or tractional. The worst BCVA postoperative were when the macula was affect and after postoperative complications had happened. **Keywords:** pars plana viterctomy, toxoplasmosis, retinal detachment

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58. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (UV) UVEITIS

**CEP Number:** 1298/2016

5. ABSTRACT (REQUIRED):

**Title:** Use of biologic agents in the treatment of noninfectious chronic uveitis in the adult population

**Author and Co-authors:** DALBEM. D.S., RIBEIRO.I.M., MUCCIOLI.C., SILVA.G.O.

**Purpose:** To describe the results of treatment of adult patients with chronic non-infectious uveitis treated with biological immunosuppressants

**Methods:** Retrospective study based on medical records of patients treated at Uveitis Sector of the Ophthalmology Department and Rheumatology Department of UNIFESP, from 2000 to 2016, with chronic non-infectious uveitis treating with biologic agents. Will be evaluated: age, gender, diagnosis and classification of uveitis, ophthalmologic assessment before and after treatment, biological in use, disease control, adverse events. Inclusion criteria: age above 18 years, chronic non-infectious uveitis treated with immunosuppressants as monotherapy or in combination. Exclusion criteria: patients with infectious uveitis and incomplete medical records

**Results:** We have analyzed until now, 6 medical records of patients attended at Uveitis Sector and Spondylarthritis Sector. Of the 6 patients, 4 were male. The mean age was 41,66. According to the classification, 1 patient presented bilateral uveitis, 1 bilateral scleritis, 1 bilateral panuveitis and 3 anterior uveitis (2 unilateral). On HLA B27 antigen, it was present in 2 patients.

Visual acuity at the start was better or equal to 0.67 in 50% of the eyes with uveitis, worse or equal to fingers count in 30%. Analyzing the visual acuity of the last care, it was unchanged in 60%, better in 20% and worse in 20%, justified by the presence of cataract.

All patients were initially treated with non-biological immunosuppressants. Immunobiological were introduced in cases of unsatisfactory control of the disease. Infliximab was the first choice in 4 of the 6 patients, half of whom maintained good response, and the other half was replaced by Adalimumab (1 due to cutaneous reaction and 1 primary failure). Of the 4 patients who used Adalimumab, 3 maintained control of the disease, and 1 was substituted for Infliximab by unsatisfactory response.

Only one patient presented an adverse event, recorded cutaneous reaction after use of Infliximab, none described after use of Adalimumab.

**Conclusion:** Up to the present time, we can conclude that the use of immunobiological may be beneficial for the treatment of chronic non-infectious uveitis. A more significant sample is required for the final conclusion of the study

**Keywords:** uveitis, biologic agents

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59. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Gileade Oliveira Silva

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**Service:** (UV) UVEITIS

**CEP Number:** Progress

5. ABSTRACT (REQUIRED):

**Title:** Incidence of intraocular lesions in adequately treated up to two years old patients with risk of acquired syphilis during gestation evaluated during the year 2016

**Author and Co-authors:** Silva O. G., Muccioli C., Ribeiro M. I., Dalbem, S. D.

**Purpose:** To identify the fundoscopic findings in patients at risk of vertically acquired syphilis with and without maternal treatment during the gestational period and neonatal treatment .

**Methods:** Selected patients from 0 to 24 months of age, admittedly at risk of acquired syphilis during pregnancy, were referred to the Uvea and AIDS Section of the Department of Ophthalmology of the Unifesp at the Outpatient Clinic of the Discipline of Pediatric Infectology (CEADIPE) during the year 2016.

All patients, as well as their respective parents, were tested with nontreponemal tests (VDRL) on blood collected.

Some patients underwent the treponemal specific test (Fta-Abs) to confirm the disease.

All patients in the study were submitted to the non-treponemal test in cerebrospinal fluid collected at birth.

All patients considered to be at risk of acquired syphilis during pregnancy were treated with intravenous crystalline penicillin for 10 days when the VDRL result was positive at birth, according to the treatment criteria of the Ministry of Health.

The remaining patients with negative VDRL, whose mothers with confirmed syphilis during labor, received a single dose of intramuscular penicillin.

An indirect fundus retinal examination with pupillary dilatation was performed in all patients for early identification of intraocular lesions and a study of their incidence in our service.

**Results:** In progress

**Conclusion:** In progress **Keywords:** congenital syphilis



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60. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Isabela Monteiro Ribeiro

**e-mail:** draisabela.mrn@gmail.com

**Service:** (UV) UVEITIS

**CEP Number:** 1120674

5. ABSTRACT (REQUIRED):

**Title:** Quality of life and psychosocial aspects in patients with ocular toxoplasmosis

**Author and Co-authors:** Aristófanes Canamary Jr, Isabela Monteiro Ribeiro, Monique Mangeon, Luci Meire P Silva and Cristina Muccioli

**Purpose:** Considering the importance of visual ability to independence in performing daily activities and survival, it is important to evaluate the quality of life of people with diseases that cause visual impairment.

Ocular toxoplasmosis is an important cause of posterior uveitis in Brazil and therefore is a frequent cause of decreased visual acuity in the eye affected by the disease.

A few studies looked at vision related quality of life in specific uveitis patient group. Different etiologies may suggest differences in impact in this issue. The aim of this study is to evaluate the quality of life in patients with ocular toxoplasmosis and its association with sociodemographic, clinical and psychosocial factors.

**Methods:** This is an observational, analytical and cross-sectional study. It was carried out in the department of Ophthalmology of the Hospital Sao Paulo/ Federal University of Sao Paulo.

To assess psychosocial aspects and quality of life in patients with ocular toxoplasmosis three validated standardized questionnaires were applied: the SF12® Quality of Life Questionnaire, National Eye Institute Visual Function Questionnaire-25 (NEI VQF-25) and Hospital Anxiety and Depression Scale (HADS). To collect socialdemographic and clinical data a questionnaire structured by the researchers were used. The questionnaires were tested on 81 patients who met the inclusion criteria: clinical diagnose for toxoplasmosis (with positive serology and ocular findings), aged over 18 years, being able to respond the questionnaires and provide the informed consent. The questionnaires were translated to Portuguese.

**Results:** Until now the data were entered and stored in a spreadsheet (Microsoft Office Excel 2003) and validated after double checking.

Data from 81 patients (40 males, 49,4%) that answered the questionnaires were analysed.

The prevalence rates of depression and anxiety (HADS score &#8805, 8) were 38.2% (31 patients) and 18,5% (15 patients) respectively.

20.9% (17 patients) had a HADS global score &#8805,15. HAD-A (anxiety) and HAD-D (depression) sub-scores were &#8805,11 (that means moderate or severe levels) in 13.6% (11 patients) and 6.2% (5 patients) respectively.

**Conclusion:** As a study is still in progress our partial conclusion is that the ocular toxoplasmosis is associated with higher prevalence of anxiety compared to depression.

**Keywords:** Uveitis, Ocular Toxoplasmosis, Anxiety, Depression, Quality of Life, Visual Ability



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**Conclusion.**

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**90cm x 120cm**

61. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Renan Braido Dias

**e-mail:** renanbraido@gmail.com

**Service:** (UV) UVEITIS

**CEP Number:** 0641/2016

5. ABSTRACT (REQUIRED):

**Title:** Effects of transcleral diode laser cyclophotocoagulation in the treatment of uveitic glaucoma

**Author and Co-authors:** Renan B Dias, Monique K Mangeon, Gabriel Andrade, Heloisa Nascimento, Rubens Belfort Jr

**Purpose:** To analysis Effects of Transcleral diode laser Cyclophotocoagulation in the treatment of Uveitic Glaucoma. The transcleral diode laser cyclophotocoagulation is a safe and efficient treatment to control intraocular pressure in patients with secondary glaucoma, although there are few literature reports of the results of this treatment in patients of several causes of uveitis.

**Methods:** Treatment will be with topical anesthesia with proximetacaína eyedrop and subconjunctival injection of bupivacaína 2,5mL, in a ambulatory procedure room. Laser energy of 2000mW in a 2 sec application. Total of 10-15 applications in a 180 degree of conjunctiva.

**Results:**

Analisis of intraocular pressure will be taken after 7 - 15 - 30 days of treatment, the use of eyedrops and medications to control intraocular pressure will be compared before and after. The results are under statistical analysis.

**Conclusion:** Under analysis

**Keywords:** uveitic glaucoma, cyclophotocoagulation

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**Conclusion.**

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**90cm x 120cm**

62. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Cristiano dos Santos Correia

**e-mail:** cristianoscbr@hotmail.com

**Service:** (ST) STRABISMUS

**CEP Number:** 1945-11

5. ABSTRACT (REQUIRED):

**Title:** Prevalence of strabismus following insertion of the Ahmed fp7 compared with the Ahmed fp8 implants in pediatric patients

**Author and Co-authors:** Cristiano dos Santos Correia, MD, Bruna Lana Ducca, MD, Tomas Fernando Scalamandre de Mendonça, MD, Christiane Rolim de Moura, PhD.

**Purpose:** To compare the prevalence of strabismus following insertion of the Ahmed FP7 versus the Ahmed FP8 glaucoma drainage devices in pediatric patients.

**Methods:** Cross-sectional study with refractory pediatric glaucoma patients treated with Ahmed Glaucoma Valve models FP7 (360mm<sup>2</sup>) or FP8 (185mm<sup>2</sup>) from 2011 to 2016 at the Federal University of São Paulo, Department of Ophthalmology. Children with less than 3 months of follow-up were excluded. Patients were submitted to an ocular motility evaluation, in which presence and type of strabismus were recorded. Difference in prevalence of strabismus between the FP7 and the FP8 groups were analyzed with the chi-square test.

**Results:** In progress.

**Conclusion:** In progress.

**Keywords:** Strabismus, Glaucoma, Glaucoma Drainage Implants, Child.

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**Purpose, Methods, Results,**  
**Conclusion.**

Poster guidelines:  
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63. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Sophia Vicenzzini Zanatta Valentini

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**Service:** (ST) STRABISMUS

**CEP Number:** 571

5. ABSTRACT (REQUIRED):

**Title:** Smartphone based refractor (eyenetra) compared to auto-refractor in adults

**Author and Co-authors:** VALENTINI S. V. Z., FARIAS L. B., DINIZ D., ARAUJO A. L., SCHOR P., BELFORT R. N.

**Purpose:** To evaluate effectiveness use of a new device in a clinical care and compare results with autorefractor.

**Methods:** We performed a prospective nonrandomized study whit forty nine patients from 20 years old. The participants underwent a ophthalmologic examination, including visual acuity, auto-refraction before and after cycloplegy even as subjective refraction. The examination whit eyenetra device was performed twice each time. The data will be computed in Microsoft Excel table and exported to the SPSS statistical package.

**Results:** In this study, 49 volunteers were evaluated. Only one eye of each subject was included in the statistical analysis. The mean age of the participants was 40,8 years (range 19-74, SD ± 13,2 years). Fifteen (30,6%) subjects were males. During dynamic examination (without cycloplegia), the results of spherical equivalent (SE) obtained with two NETRA tests were just reasonably correlated. Intraclass Correlation Coefficient (ICC) between measurements was 0.670 (95% CI 0.295 - 0.781, P=0,01). Under cycloplegia, the correlation between measurements of SE with NETRA were greater. ICC was 0.826 (95% CI 0.686 - 0.904, P<0,0001). The mean difference under cylcoplegia between measurements for spherical (Sph), cylinder (Cyl) and axis (Axs) were -0.22 ± 1.59 diopters (P=0.348), -0.13 ± 0.72 diopters (P=0.232) and 0,53 deg ± 78 (P=0.970) respectively. The mean difference of SE between NETRA and auto-refraction in dynamic examination was 0,74 ± 3,22 diopters (P = 0,122). Under cycloplegia, the mean difference of SE was 0,48 ± 1,30 diopters (P = 0,015). ICC without cycloplegia was 0,78 (95% CI 0.62 to 0.88, P <0.001). ICC under cycloplegia was 0,83 (95% CI 0.69 to 0,90, P < 0.001).

**Conclusion:** NETRA is a useful dispositive for refraction measurement, showing similar results to the auto refractor, especially under cycloplegia.

**Keywords:** ocular refraction, smartphone.

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

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

64. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Patricia Novita Garcia

**e-mail:** patricianovita@yahoo.com.br

**Service:** (US) OCULAR ULTRASOUND

**CEP Number:**

5. ABSTRACT (REQUIRED):

**Title:** Measurement of cornea opacity using different imaging methods

**Author and Co-authors:** Patricia Novita Garcia, Norma Allemann

**Purpose:** To compare measurements of thickness and depth of the opacity in corneas with different grades of leukoma using imaging methods.

**Methods:** We examined 102 eyes: 32 normal, 70 with corneal opacity. Photographic documentation was used to graduate the opacity as mild, moderate and severe. Total thickness was determined in opaque and in normal corneas following a sequence: non-contact tests as Haag-Streit; spectral-domain anterior segment optical coherence tomography (AS-OCT), RTVue Optovue; time-domain AS-OCT, Visante OCT Zeiss; and contact techniques as ultrasound pachymetry, Corneogage plus Sonogage and ultrasound biomicroscopy (UBM), 50 MHz UBM Vumax Sonomed. The depth of corneal opacities was determined using AS-OCT and UBM.

**Results:** Cornea opacity (70 eyes, 67.96%) was classified in mild (28 eyes, 40%), moderate (27 eyes, 38.57%), and severe (15 eyes, 21.43%). There was a positive correlation between imaging methods when considering the measurements obtained in moderate density opacities at the central region. Agreement was found between measurements obtained with Optovue and Visante for mild and severe opacities; and between measurements from Visante and ultrasound pachymetry for severe opacities. OCT measurements did not differ with either methods: Optovue and Visante. UBM measurements were different from ultrasound pachymetry and OCT (Optovue and Visante) (insertir  $p < 0.0x?$ ).

**Conclusion:** There was no difference in measurements of thickness when considering normal and opaque corneas using different imaging methods. In normal and opaque corneas, UBM underestimated measurements in comparison to ultrasound pachymetry and OCT. Considering the depth of the opacity, measurements were similar using different imaging methods.

**Keywords:** UBM, OCT, Cornea

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**(EP) EPIDEMIOLOGY**

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**Purpose, Methods, Results,**  
**Conclusion.**

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65. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Felipe Marques de Carvalho Taguchi

**e-mail:** felmct@gmail.com  
**Service:** (EP) EPIDEMIOLOGY  
**CEP Number:** 1464/2016

5. ABSTRACT (REQUIRED):

**Title:** Quality of life in individuals with diabetic retinopathy: the utility project  
**Author and Co-authors:** FELIPE M.C. TAGUCHI, JOSÉ JOB neto, verônica h. Yamada, flavio e. hirai

**Purpose:** To investigate quality of life among individuals with diabetic retinopathy

**Methods:** Individuals with diabetic retinopathy from the Retina Division of the Department of Ophthalmology (Federal Univesity of São Paulo) were submitted to quality of life questionnaires (EuroQol 5D-3L and NEI-VFQ- 25). Composite scores

were calculated and compared between two groups defined by their presented

visual acuity (Better than 20/60 vs. Worse or equal 20/60).

**Results:** 20 individuals (45.0% male) with mean (sd) age of 57.4 (15.1) years were

interviewed. Mean (sd) EQ-5D- 3L index was 0.761 (0.124) for those with better

visual acuity and 0.702 (0.260) for individuals with worse visual acuity (p=0.938).

The mean (sd) visual analog scale scores were 60.0 (18.5) vs. 38.7 (25.6) (p=0.067).

**Conclusion:** Quality of life scores were lower among individuals with diabetic retinopathy and worse visual acuity. The ultimate goal of this project is to value

health states in order to determine utility values for future health economic analysis.

**Keywords:** Quality of life, Utility, EuroQol 5D-3L, NEI-VFQ- 25, Diabetic Retinopathy

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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.

**(LS) LACRIMAL SYSTEM**

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

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

66. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Sabrina Jisun Myung Cho

**e-mail:** sabrinacho@gmail.com  
**Service:** (LS) LACRIMAL SYSTEM  
**CEP Number:** 100076

5. ABSTRACT (REQUIRED):

**Title:** Case report: bilateral external dacryocystorhinostomy in an infant  
**Author and Co-authors:** Cho SJM, , Okazaki C, Andrade MRV, Campos AC, Ferro GBR, Perches F, Bison SHDVF  
**Purpose:** To report a successful case of bilateral external dacryocystorhinostomy in an infant of 6 months.  
**Methods:** Patient of 6 months, female, complaining of hyperemia and bulging of the nasal and inferior region of the left orbit, associated with previous history of bilateral recurrent acute dacryocystitis. The ophthalmological exam was consistent with agenesis nasolacrimal duct and recent acute worsening. Taken the low weight, age of the patient and risk of severe volemic loss intraoperatively, we decided to first perform an external dacryocystorhinostomy only in the left side.  
**Results:** After a week of the surgery, the patient evolved with acute dacryocystitis in the right eye. We hospitalized the patient and treated her with endovenous oxacillin and local warm massage. The lesion fistulized and the result of the culture showed a multi sensitive Staphylococcus aureus. After three weeks, we performed external dacryocystorhinostomy on the right side, without complications.  
 The patient has now been followed up in our service for months already without any signs of recurrences.  
**Conclusion:** The indication of surgery in infants less than one year old is only for specific cases such as previous acute worsening, mucocele and amniotocele. In most cases, probing or intubation are enough. Nevertheless, in cases of agenesis of the nasolacrimal duct associated with acute worsening as in the case presented above, dacryocystorhinostomy must be performed so that there are no recurrences of infection. Furthermore, the success ratio is high. Bilateral dacryocystorhinostomy has both economical and social advantages, but when it comes to babies, the team should always be prepared for eventual blood reposition. Therefore, careful considerations of the advantages and risks of a simultaneous bilateral dacryocystorhinostomy need to be made in these cases.  
**Keywords:** Infant, bilateral external dacryocystorhinostomy, agenesis of the nasolacrimal duct



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**(RE) RETINA AND VITREOUS**

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**Purpose, Methods, Results,**  
**Conclusion.**

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

67. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Felipe Pereira

**e-mail:** felipe\_pera@hotmail.com

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

**CEP Number:** 1300/2015

5. ABSTRACT (REQUIRED):

**Title:** Structural and functional evolution in diabetes mellitus: a choroidal analysis

**Author and Co-authors:** Felipe Pereira, Muller G. Urias, Caio V. Regatieri, Eduardo B. Rodrigues

**Purpose:** Correlate the choroidal and retinal thickness using a new method for choroidal measure in patients with diabetes mellitus (DM) with no or mild retinopathy.

**Methods:** All patients of three groups (controls, DM with no retinopathy and DM with mild retinopathy) underwent high-definition 6x6mm volume scanning using spectral-domain optical coherence tomography with and without frame enhancement software. The measure of retinal thickness was generated automatically by the software of the SD-OCT, for choroidal measures, automatic reference lines from retinal boundary were manually adjusted to choroid on each B-scan. A topographic map of each layer was automatically generated by built-in software according to the Early Treatment Diabetic Retinopathy Study (ETDRS) layout. A statistical analysis was conducted to verify association from clinical and ophthalmologic variables to measures from SD-OCT. Besides that, analysis was conducted to correlate retinal thickness from automated algorithm segmentation to choroidal thickness. Ethical approval was granted by UNIFESP Institutional Review Board by the number 1300/2015 and informed consent study was obtained from all patients.

**Results:** After a pilot study had demonstrated correlation between choroidal thickness and volume with age and time of DM, we expect to find correlations between choroidal thickness and macular sensibility, contrast sensitivity and retina layers and and a significantly difference between controls and mild diabetic retinopathy patients.

**Conclusion:** We expect to confirm the correlations of our pilot study between choroidal thickness and volume with age and time of DM. We also expect that there is a strong correlation between the retinal layers and choroidal thickness, in addition to a clinically significant difference between healthy patients and patients with mild diabetic retinopathy.

**Keywords:** choroidal thickness, EDI-OCT, retinal layers, OCT-spectral-domain, mild diabetic retinopathy,

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**Purpose, Methods, Results,**  
**Conclusion.**

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68. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** José Belúcio Neto

**e-mail:** netobelucio@yahoo.com.br

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

**CEP Number:** 0733/10

5. ABSTRACT (REQUIRED):

**Title:** Panretinal photocoagulation with 577nm multispot vs 532nm single-spot laser for diabetic retinopathy: a clinical trial

**Author and Co-authors:** José Belúcio-Neto, Renato Passos, Camilla Xavier, Eduardo Novais, Mauricio Maia, Michel Eid Farah

**Purpose:** To evaluate anatomical and functional outcomes in patients with diabetic retinopathy (DR) submitted to panretinal photocoagulation (PRP) with 577nm multispot laser (Supra Scan® Quantel Medical) vs 532nm single-spot laser (PASCAL® Topcon), and to compare laser parameters and patient tolerance.

**Methods:** Single-center, randomized clinical trial involving 48 patients with DR who met criteria for PRP. Eyes with ocular commorbidities or previous intravitreal injection or vitrectomy were excluded. Baseline best corrected visual acuity (BCVA), OCT and fluorescein angiography were performed. Patients were then submitted to PRP, either using 577nm multispot laser with 20ms exposure time (group 1) or 532nm single-spot laser with 100ms exposure time (group 2). Exams were repeated 6 and 12 months after treatment. The main outcome was BCVA, and secondary outcomes were FA and OCT changes, laser parameters, number of sessions required for PRP and patient tolerance measured through a subjective pain scale.

**Results:** So far 24 patients completed the protocol. Group 1 (n=11) presented baseline BCVA of 0.5±0.2 and central retinal thickness (CRT) of 298±110&#956,m, treatment was divided in 3±1 sessions, delivering 2924±479 spots. Patients' reported pain (subjective 1-10 scale) was 5±2 and photofobia 6±3. After 12 months, mean BCVA was 0.7±0.5 and CRT 260±71, OCT evidenced induction of posterior vitreous detachment (PVD) in 64% of patients, macular edema (ME) improved in 64%. Group 2 (n=13) presented baseline BCVA 0.5±0.3 and CRT 341±171&#956,m, 1404±272 spots were produced in 4±1 sessions, mean pain was 6±2 and photofobia was 6±2. In the 12-month visit, mean BVCA was 0.4±0.3, OCT showed PVD induction in 54% of patients, and ME improved in 54%. Angiographic evaluation 6 months after PRP in group 1 showed reduction of new vessels in 36.3% of patients and improvement of non-perfusion areas in 45.4%, those numbers in group 2 were respectively 46.1% and 53.8%.

**Conclusion:** This study shows that 577 nm multispot laser, when compared to 532nm single-spot, uses less total fluence for treatment, tends to require a lower number of sessions for completing PRP and may be better tolerated by patients. Both modalities seem to induce similar therapeutic effects, with improvement of macular edema and maintenance of visual acuity in most of the patients.

**Keywords:** diabetic retinopathy, photocoagulation, multispot laser

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**Purpose, Methods, Results,**  
**Conclusion.**

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**69. FIRST (PRESENTING) AUTHOR (REQUIRED):**

**Name:** Marina Lourenço de Conti  
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**Service:** (RE) RETINA AND VITREOUS  
**CEP Number:** 612852160

**5. ABSTRACT (REQUIRED):**

**Title:** Choroidal thickness measurement in patients with ulcerative colitis using swept source optic coherence tomography imaging

**Author and Co-authors:** Conti ML, Fares NT, Kato RT, Machado LF, Costa LA, Zetti C, Ambrogini O, Moraes NSB.

**Purpose:** The aim of this study is to evaluate choroidal thickness in patients with ulcerative colitis (UC) using swept source optic coherence tomography (SS-OCT) imaging (preliminary study).

**Methods:** From May 2016 to November 2016, patients with UC from the Intestinal Disease Outpatient Clinic at Hospital São Paulo - São Paulo, SP, Brazil, were prospectively recruited to undergo complete ophthalmologic examination, including visual acuity measurement, slit lamp and eye fundus examination and intraocular pressure measurement. Choroidal thickness was measured using Topcon DRI OCT Triton®, Swept Source OCT. The study was approved by the institutional ethics committee and informed consent was obtained from all patients. **Results:** 16 patients were enrolled in the study, 13 were female and 3 were male. The average age was 51 years old (median = 54, min = 22, max = 68). Fourteen patients had best corrected visual acuity (BCVA) equal or better than 20/30, one patient had BCVA of 20/40 in both eyes and another patient had BCVA of 20/60 in the right eye and 20/40 in the left eye. All patients had intraocular pressure values lower than 20 mmHg and all measurements were performed during the period of 10 am to 11 am. Two patients had pterygium sparing visual axis, 3 patients had significant meibomitis and blepharitis, 4 patients had nuclear cataract 2+ /4+, and one patient had a shallow anterior chamber with an open iridotomy. The other six patients had no abnormalities in the slit lamp exam. The eye fundus examination was normal in 6 patients, two patients had diffuse rarefaction of pigmented retinal epithelium, one patient had drusen all over the posterior pole, and another patient presented peripapillary atrophy with normal cup-disc ratio. SS-OCT images are under evaluation regarding choroidal thickness measurement as the study is still in progress. Preliminary analysis show increased choroidal thickness compared to data of SS-OCT measurements in normal patients reported in literature. **Conclusion:** UC is a subtype of IBD - a chronic systemic disease with extraintestinal manifestations reported in 5%-40% of patients, of which 10%-20% represent the first signs of disease. Ocular involvement has been reported in 4%-10% of patients with IBD and its presentation is particularly important because it can follow disease activity or precede other symptoms of the disease, yet rarely. Early diagnosis of UC can avoid many long term consequences of bowel involvement, as well as non invasive methods of following these patients regarding disease activity can bring benefits to their treatment. A previous study reported changes in choroidal thickness in patients with IBD seen in enhanced depth imaging coherence tomography (EDI - OCT). Swept-source OCT (SS-OCT), a different OCT technology, improves upon the precision with which we can determine the inner and outer boundaries of the choroid, and allows examination of the choriocapillaris and larger choroidal vessels. To the present time, studies using SS-OCT to evaluate choroidal segment involvement in patients with IBD have yet to be reported. In this pilot study, preliminary data show a high prevalence of increased choroidal thickness in patients with UC, and its measurements and statistical analysis are yet to be performed during the following days. Choroidal thickness measurement might have a roll in the diagnosis and follow-up of patients with UC.

**Keywords:** choroidal thickness, inflammatory bowel disease, ulcerative colitis

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70. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Müller Gonçalves Urias

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**Service:** (RE) RETINA AND VITREOUS  
**CEP Number:** 1300/2015

5. ABSTRACT (REQUIRED):

**Title:** Structural and functional evolution in diabetes mellitus: analysis from retinal layers

**Author and Co-authors:** URIAS, M., PEREIRA, F., RODRIGUES, E.

**Purpose:** To correlate measures from retinal layers in patients with diabetes mellitus (DM) with no or mild retinopathy to clinical and ophthalmologic findings.

**Methods:** Patients were recruited from Hospital São Paulo clinics, according to the Declaration of Helsinki, and divided into three groups: 1) Control, 2) with DM and no diabetic retinopathy, 3) mild DR. They underwent clinical and ophthalmology exam. Also, a spectral-domain optical coherence tomography (6x6mm volume scan by Spectralis SD-OCT, Heidelberg®) and a microperimetry test (MAIA - Centervue®) were obtained. For each layer measure, automatic reference lines from retinal boundary were automatically adjusted to layer on each B-scan. Thus, layers could be measured in each sector from ETDRS grid. We obtained the following layers: retinal nerve fiber layer(RNFL), ganglion cell layer(GCL), inner plexiform layer(IPL), inner nuclear layer(INL), outer plexiform layer(OPL), outer nuclear layer(ONL) and retinal pigmented epithelium(RPE).

**Results:** Our previous pilot study, with 29 eyes were enrolled, found difference between groups in contrast sensitivity perception at spatial frequency of 3 cycles/degree (p=0.044), microperimetry test was performed quickly in control group compared to mild DR patients (p=0.022). Automated segmentation analysis showed total volume reduction in INL (p=0.027) and increased volume in RPE (p=0.003). There was correlation between GCL and INL with age, and between duration of DM and RPE. A multiple linear regression model was used to assess the correlations and found that GCL changes was better explained by age (p=0.006), INL thickness by status of disease (p=0.008) and RPE by time of DM(p=0.001). We based our statistical analysis in our pilot study and increased our number of patients. New data is currently under compilation and analysis.

**Conclusion:** Our pilot study reports early anatomical neuroretinal changes in patients with early DR compared to eyes without DM by OCT. We expect to confirm this reports in this study. The OCT technology may help to verify, quantify and establish paradigms of treatment in DR based not only in vascular abnormalities but also on the neurodegenerative process of the retina in diabetic patients.

**Keywords:** neurodegeneration, optical coherence tomography, retinal layers, diabetic retinopathy, diabetes mellitus

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71. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**e-mail:** murilopolizelli@gmail.com

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

**CEP Number:** 04038-002

5. ABSTRACT (REQUIRED):

**Title:** Case report of Susac's syndrome: a challenging diagnosis

**Author and Co-authors:** Polizelli MU, Muller L, Azevedo A, Borelli IM.

**Purpose:** Susac's syndrome is a systemic auto immune disease and it's symptoms are primary caused by microvasculature occlusions with endotheliopathy. It's a rare disease and frequently misdiagnosed for many reasons. Typically the syndrome presents with a classic triad hearing loss, encephalopathy and branch retinal artery occlusions. With the OCT angiography (OCT-A) there's a novel and non-invasive method to evaluate retinal microvasculature and can be helpful in the early diagnose of this disease.

**Methods:** The case report is about a 31 years old woman, presented to our service in Hospital São Paulo 6 months ago with worsening of the visual acuity, hearing loss, headaches, vertigo and neurological symptoms in the past 3 months.

**Results:** With a high index of suspicion and the correct exams the Susac's syndrome can be diagnosed and early treated with satisfactory remission.

**Conclusion:** Susac's Syndrome can be a challenge to diagnose if the patient presents without the classic triad and more cases and studies are needed to understand all the manifestations of the disease, making possible a prompt diagnose enabling the introduction of a precocious and effective treatment avoiding irreversible damage.

**Keywords:** Susac Syndrome, Susac's Syndrome, optical coherence tomography angiography, magnetic resonance, OCT, encephalopathy, hearing loss, retinal artery occlusion.



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72. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**e-mail:** nik.fares@yahoo.com.br

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

**CEP Number:** 61285216

5. ABSTRACT (REQUIRED):

**Title:** Swept source optic coherence tomography measurement of choroidal thickness and optical clinical evaluation of patients with Crohn's disease

**Author and Co-authors:** Fares, NT, Conti ML, Kato, RT, Machado LF, Costa LA, Zetti CL, Ambrogini O, Gracitelli, CP, Moraes, NSB

**Purpose:** Ocular inflammation is a frequent extraintestinal manifestation of Crohn's disease and may parallel disease activity. The aim of this study is to evaluate choroidal thickness of Crohn's patients by using swept source optic coherence tomography (SS-OCT) imaging and also correlate the findings with clinical ophthalmologic exam.

**Methods:** This was a cross-sectional study including a total of 30 eyes of 15 patients with Chron's disease from Intestinal Disease Outpatient Clinic at Hospital Sao Paulo ? Sao Paulo, SP, Brazil. They were all submitted to a complete ophthalmologic clinical examination, including visual acuity measurement, slit lamp exam, intraocular pressure measurement and fundus examination). Choroidal thickness was measured by using Topcon DRI OCT Triton?, Swept Source OCT. The present study was approved by institutional ethics committee and informed consent was obtained from all patients.

**Results:** The average age was 37 years old (median= 31,5, min,=18, max=66). Ten were male and 5 female. Twelve patients had best corrected visual acuity (BCVA) equal or better than 20/25 both eyes, two patient had BCVA between 20/30 -20/40 both eyes and one patient had BCVA of 20/60 right eye (OD) and 20/32 left eye (OS). The slit lamp exam was normal in eight patients. Five patient had significant blepharitis and three of them had also meibomitis. Nuclear cataract 2+/4+ was found in two patients. The intraocular pressure was within normal limits (between 11-15mmHg) at the hole group. Ten patients had normal eye fundus exam. Two had diffuse rarefaction of pigmented retinal epithelium, three had increased vascular tortuosity and one had a peripapillary drusen in OD with normal fundus OS. SS-OCT exams analysis are still on progress. However, since now, it seems to show an increased choroidal thickness in most of patient when compared to data of normal patients SS-OCT measurem ents from literature. To quantify this find, we analysed sufoveal thickness. Average value of subfoveal choroidal thickness was 394,5?m (median 396, min= 228, max=550) in the OD and 382,9 ?m (median 354, min=213, max=550) in the left eye. According to recent data, healthy patients present average values between 281,9 -329,4 ?m. SS-OCT choroidal images also suggests that 77,7% of patients had choroidal vessels with an increased diameter. However, it was not possible to quantify these values.

**Conclusion:** Based on this preliminary data it is possible to infer that in spite of presenting normal clinical ophthalmological exam, Chron's patient present increased choroidal thickness, what could may have a roll in the diagnosis and follow up of these patients. Statistical analysis is still on progress. A study involving a greater number of patients and also control ones is being carried out in this service and will encompass this study.

**Keywords:** Choroidal thickness; Chron's disease; Swept source optical coherence tomography



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73. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Rafael Ramos Caiado

**e-mail:** rrcaiado@hotmail.com

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

**CEP Number:** 1139211

5. ABSTRACT (REQUIRED):

**Title:** A novel vital dye extracted from the acai fruit (*Euterpe oleracea*) for chromovitrectomy in humans: a phase I trial

**Author and Co-authors:** Rafael R. Caiado, MD, Cristiane S. Peris, Acácio Alves Souza Lima-Filho, PhD, Emmerson Badaro, MD, PhD, Vitor Kazuo Lotto Takahashi, MD, Andre Maia MD, PhD, Octaviano M. Jr MD, PhD, Raul Ragazzi, Eduardo B. Rodrigues, MD, PhD, Octaviano M Jr MD, Michel Ei

**Purpose:** To present the preliminary results obtained after the two first vitreoretinal surgeries performed in humans using the acai dye at a concentration of 25%. The aim of the present clinical trial in humans is to test the dye's staining capacity in the identification of the vitreous and internal limiting membrane (ILM).

**Methods:** The UNIFESP Ethics Committee and CONEP approved this study which is a phase I clinical trial performed in 25 human eyes. Inclusion criteria: patients that require an elective vitrectomy to treat a macular hole or an Epiretinal membrane with a BCVA below 20/50. Patient exclusion criteria: glaucoma, past or present intraocular infection, previous vitreoretinal surgeries, and any ocular condition that could limit/affect postoperative results. After signing an Informed Consent Form, physical and pre-anesthesia evaluations will be made. Vitrectomy surgery will be executed using the 23-gauge technique composed of 4 sclerectomies. Two surgeons will perform the surgical procedures and will later answer a questionnaire to classify the dye's staining capacity (0-10) of the vitreous and ILM. Complete Ophthalmological Examination will be made at Baseline, 30 days and 6 months after surgery.

**Results:** Preliminary results were obtained after the surgery of two eyes from 2 male patients (60 and 62 years-old) diagnosed with idiopathic macular hole. Both surgeons classified the dye staining capacity of the vitreous to be 10. Meanwhile the ILM received the respective classification of 3 and 4. Clinical analysis with follow-up of 6 months of both patients did not present signs of retinal toxicity.

**Conclusion:** The staining capacity of the acai dye at 25% may aid the identification of the vitreous and ILM during vitreoretinal surgery in humans.

**Keywords:** acai fruit, anthocyanins, chromovitrectomy, *Euterpe oleracea*.

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**74. FIRST (PRESENTING) AUTHOR (REQUIRED):**

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**Service:** (RE) RETINA AND VITREOUS  
**CEP Number:** 1093853

**5. ABSTRACT (REQUIRED):**

**Title:** 577nm micropulse laser as adjunctive therapy to intravitreal bevacizumab for diabetic macular edema

**Author and Co-authors:** Bergamo VC, Passos RM, Xavier CO, Belucio-Neto J, Juncal V, Novais E, Regatieri C, Roisman L, Maia M.

**Purpose:** The purpose of the present study is to compare the effectiveness of intravitreal Bevacizumab combined with subthreshold micropulse yellow (577nm) laser photocoagulation versus intravitreal Bevacizumab monotherapy in the treatment of Diabetic Macular Edema. The objective is to demonstrate whether 577nm Micropulse Laser is beneficial when used in combination with Bevacizumab for DME (not as an alternative treatment), in order to decrease the need for repeated injections. **Methods:** Single-center randomized clinical trial with 15 eyes of 10 patients, that were enrolled based on the following inclusion criteria: Diabetes type 1 or 2, Best Corrected Visual Acuity (BCVA) 20/40 to 20/400, Center involving DME on clinical examination and Central Macular Thickness (CMT)  $\leq 8805$ , 250 $\mu$ m, and Foveal Avascular Zone diameter  $\leq 8804$ , 1500 $\mu$ m on Fluorescein Angiography (FA). The Exclusion criteria were: Age less than 18 years, Any ocular treatment, such as injection or photocoagulation in the last 6 months, Intraocular surgery or PRP in the last 3 months and Previous vitreoretinal surgery. Patients were randomized into 2 groups: Group 1 received Bevacizumab 1.25mg injections and Micropulse Laser, Group 2 received only Bevacizumab 1.25mg injections. Patients received a loading dose of 3 monthly intravitreal Bevacizumab 1.25mg injections. Group 1 had micropulse laser done 1 week after the injection at baseline. After month 3, an as-needed regimen (PRN) was adopted. Patients were re-evaluated monthly with visual acuity and OCT assessment. Treatment was withheld if VA and macular fluid stabilized and re-treated if there was a drop in VA of 5 or more letters or an increase of CMT of 10% or greater. Injections could be repeated monthly while micropulse laser could be repeated with a minimum 3 months interval for patients in group 1. By the end of our follow-up, a patient could have received 13 injections and group 1 could have additional 4 micropulse laser sessions. **Results:** The baseline: BCVA on ETDRS (15.25  $\pm$  16.98 Group 1, 16.43  $\pm$  11.18 Group 2), CMT (382.13  $\pm$  99.47 in Group 1, 378.57  $\pm$  65.81 in Group 2). The change in VA based on ETDRS were 10 letters in Group 1 and 11 in Group 2, with no significant difference compared to baseline (p = 0.92). About the CMT, Group 1 showed a reduction of 162  $\mu$ m at month 12 and had a statistically significant improvement at each time point (3, 6, 9, 12 months) when compared to baseline. Group 2 showed a reduction of 70  $\mu$ m in CMT at month 12 and none of the time points were statistically significant. When the CMT between groups are compared, statistically significance was almost approached (p = 0.08). The number of injections needed over the 12 months, while Group 1 received a mean of 5.75  $\pm$  2.77 injections, Group 2 required 8.00  $\pm$  3.16, with no statistically significance (p = 0.17). The number of needed injections did not have an association with final visual outcome in both groups. However, the individual treatment session, meaning injection or occasionally injection plus laser in Group 1 was more effective in terms of VA improvement, gaining 2.85 letters per session, while Group 2 improved 1.95 letters per injection, but with no significant difference between groups (p = 0.67). About the CMT, there was a significant association between the number of needed injections and final CMT improvement in Group 1 (p = 0.04). **Conclusion:** We can conclude that Group 1 (Intravitreal bevacizumab 1.25mg + 577nm micropulse laser) achieved a similar visual improvement compared to Group 2 (Intravitreal Bevacizumab 1.25 monotherapy) for DME but with superior anatomic outcomes. The 577nm micropulse laser is a low cost tool that can be used as an adjunctive treatment and likely reduce the number of intravitreal injections for DME. So, even though Group 1 received less injections, its CMT improvement rate by the end of the follow-up was higher than Group 2. **Keywords:** diabetic retinopathy, photocoagulation, micropulse laser, 577nm, intravitreal

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**FORMAT:**

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

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

75. FIRST (PRESENTING) AUTHOR (REQUIRED):

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

**CEP Number:** 227496

5. ABSTRACT (REQUIRED):

**Title:** Efficacy of antiangiogenic drugs derived from heparin mimetic in animal models of choroidal angiogenesis

**Author and Co-authors:** Vinicius Kniggendorf, Thatiane Russo, Maria Eduarda P. de Sousa, Vitor Takahashi, Juliana Dreyfuss, Caio Regatieri, Juliana Sallum

**Purpose:** To evaluate the efficacy of intravitreal injection of anti-angiogenic drugs derived from heparin mimetic (HEPM) in mouse model of laser induced choroidal neovascularization (CNV).

**Methods:** CNV induction will be performed using argon laser (spot: 100 µm, power 150mW, 0.1 seconds duration) in 40 mice. After laser therapy, mice will be divided into 4 groups (Control - BSS/5 µl, Group 1 - 0.05mg/5 µl, Group 2 - 0.10mg/5 µl, Group 3 - 0.50mg/ 5µl) and receive intravitreal injections. Euthanasia will be performed after 14 days, followed by dissection of choroidal tissue. Immunohistochemistry preparation is based on primary antibodies (anti-VEGF, anti-RVEGF and anti-Von Willebrand) and secondary antibodies (Streptavidin conjugated with fluorescent marker - AlexaFluor™). The CNV area analysis will be performed with confocal microscope and compared using Image Processing and Analysis in Java (ImageJ). Statistical analysis is based on a t-student test (p <0.05).

**Results:** Laser was performed in 6 mice of the control group followed by enucleation and immunohistochemistry preparation. Choroidal neovascularization area is under analysis. Results of the 40 mice are expected by February 2017.

**Conclusion:** Waiting for the results

**Keywords:** angiogenesis, choroid, heparin mimetic, laser, neovascularization

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76. FIRST (PRESENTING) AUTHOR (REQUIRED):

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

**CEP Number:** 0

5. ABSTRACT (REQUIRED):

**Title:** Evaluation of retinal vascularization in children with portal hypertension

**Author and Co-authors:** Vitor Kazuo Lotto Takahashi, BRUNA FERRACO MARIANELLI, Nilva Simeren Bueno de Moraes Ambrogini Miriane London da Silva Campos Ramiro Anthero de Azevedo

**Purpose:** In this study we want to show that the increase in vascular resistance caused by portal hypertension can lead to vascular alterations in the retina in children

**Methods:** 42 children diagnosed with portal hypertension underwent fundoscopic examination to evaluate retinal vascularization.

**Results:** 28.5% of the children presented vascular tortuosity in fundoscopic examination

**Conclusion:** The increase in systemic vascular resistance caused by portal hypertension can lead to vascular alterations in the retina already in childrens

**Keywords:** portal hypertension, retina vascular tortuosity

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**Conclusion.**

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77. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (RS) REFRACTIVE SURGERY

**CEP Number:** 4039031

5. ABSTRACT (REQUIRED):

**Title:** Correlation of ocular measurements in individuals submitted to phakic intraocular lens implantation

**Author and Co-authors:** Fábio Kenji Matsumoto, MD, Ibraim Viana Vieira, MD, Adriano Bogar, MD, João Crispim Ribeiro, MD, PhD, Flávio Hirai, MD, PhD, Eliane Mayumi Nakano MD

**Purpose:** Search for a calculation that can predict Vault of patients undergoing ICL 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 (WTW)

**Conclusion:** Moderate correlation was observed for sulcus-to-sulcus measurements and vault at both time periods. Poor correlations were observed for other variables

In progress

**Keywords:** phakic intraocular lens implantation, ocular measurements, vault

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**Purpose, Methods, Results,**  
**Conclusion.**

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78. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**e-mail:** mikaelchun1990@gmail.com

**Service:** (RS) REFRACTIVE SURGERY

**CEP Number:** 0886/09

5. ABSTRACT (REQUIRED):

**Title:** Aberrometry changes in Eyes with Central Keratoconus Implanted with Intrastromal Corneal Ring Segment Arc 340°

**Author and Co-authors:** Mikael Chun, Rodrigo Teixeira Santos, Flávio Hirai, Danielle Miranda, Eliane Mayumi Nakano, Claudia Francesconi, Walton Nosé.

**Purpose:** Aberrometry changes in Eyes with Central Keratoconus Implanted with Intrastromal Corneal Ring Segment Arc 340°

**Methods:** This prospective study intended to enroll 40 eyes with central keratoconus with the following inclusion criteria: steep meridian until 62 D and thinnest point pachymetry > 400um. Patients were randomly distributed in two groups: Group A: rings implanted in a stromal tunnel, Group B: rings implanted in a stromal pocket. Eyes were evaluated by OPD-Scan (Nidek, Japan) after 1, 3, 6 and 12 months of surgery. The point spread function, modulation transfer function (MTF), convolved acuity chart and root-mean-square (RMS) values for higher order aberrations (HOA) were analyzed.

**Results:** Up to date, 27 eyes of 27 patients, were enrolled for the study, 3 with extrusion of the ring. There are 27 patients with 12 months of follow up. Thirteen patients were submitted the tunnel technique and 14 patients, pocket technique

**Conclusion:** The data is on statistical analysis.

**Keywords:** keratoconus, intrastromal corneal ring



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79. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Murilo Bertazzo Peres

**e-mail:** murilobp@gmail.com

**Service:** (RS) REFRACTIVE SURGERY

**CEP Number:** 47062215.

5. ABSTRACT (REQUIRED):

**Title:** Outcomes evaluation of two asymmetrical intracorneal ring segments implants of 160 in patients with inferior asymmetric keratoconus and high corneal astigmatism

**Author and Co-authors:** Murilo B. Peres, Luis Henrique Lira, Rodrigo T. Santos, Eliane M. Nakano.

**Purpose:** Keratoconus is a corneal ectatic disorder which leads to an increase corneal thinning and results in worsening of visual quality. The use of intracorneal ring segment (ICRS) in the treatment of this disease is reported to provide safe and effective visual outcomes. Eyes with inferior asymmetric keratoconus and high corneal astigmatism are challenge to treat. The use of two asymmetrical intracorneal ring segments implants of 160 ° arc length may provide better visual outcomes in this type of keratoconus.

**Methods:** Eyes with the following inclusion criteria were recruited: regular inferior asymmetric keratoconus with corneal astigmatism greater than 4D, corneal thickness greater than 400 micra in the implant surgical site, simulated keratometry in the steepest meridian less than 62D, clear cornea, best corrected visual acuity (BCVA) worse than 20/30, more than 16 years old. Patients with previously eye surgeries, pregnancy, systemic alterations related with corneal cicatrization and poor collaboration were excluded.

Two 160 ° arc length asymmetrical ICRS, with one tip 100 micra thicker than the other one, (Keraring®) were implanted with the thickest tip in the superior portion of the cornea in theory to provide a better elevation of this portion and correct the tilt of the corneal apex plane with the visual axis. It was used ICRS with thickness of 150-250 micra for myopia less or equal 2D, and 200-300 micra for more than 2D. The femtosecond laser (Intralase®) was used to create an intrastromal tunnel for the ICRS.

The pre-operative data and follow up included a complete ophthalmologic and complementary exams including BCVA, uncorrected visual acuity (UCVA), manifest refraction and topographic readings (OCULUS Pentacam®), and contrast sensitivity, and high order aberrations (OPD SCAN)

**Results:** Until now, 3 eyes were included in a follow up of 3 months. Two eyes showed improvement in the BCVA, UCVA and spherical equivalent dynamic refraction (EEdr). All patients showed a decrease in the keratometric data (K1, K2, K max, corneal astigmatism) and also a flattening of the cornea. The ICRS was efficient in flattening the steep area, but the preoperative superior flat area of the cornea got even flatter, so as a result, the corneal apex surface was not perpendicular with the optical axis, as we wished.

One patient showed no improvement in BCVA, UCVA and EEdr and was undergone to a new intervention to rotate both ICRS putting the thickest tip downward in the steepest hemisphere of the cornea. In the last follow up, this patient got improvement in the ophthalmologic exams and got a better pattern of flattening in the location of the asymmetrical inferior keratoconus.

**Conclusion:** Two asymmetrical ICRS with thicker tips towards the steep hemisphere of the cornea meets its proposed efficacy in managing both the prolapse and the asymmetry of this type of keratoconus. The next recruited patients will have surgery planned according to these findings.

**Keywords:** keratoconus, Prostheses and Implants, Intracorneal rings, Corneal ectasia

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80. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Renata Cavalcanti Portela

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**Service:** (RS) REFRACTIVE SURGERY

**CEP Number:** 4039001

5. ABSTRACT (REQUIRED):

**Title:** Biometry changes in Eyes

**Author and Co-authors:** Renata Cavalcanti Portela, Rod

**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 340o implantation.

**Methods:** This prospective study intended to enroll 40 eyes with central keratoconus with the following inclusion criteria: steep meridian until 62 D and thinnest point pachymetry > 400um. Patients were randomly distributed in two groups: Group A - rings implanted in a stromal tunnel, Group B - rings implanted in a stromal pocket. In both groups was performed optical (IOL and Lenstar) and ultra-sound biometry. Patients were evaluated preoperatively, and after 7 days and 1, 3, 6 and 12 months of surgery.

**Results:** In progress

**Conclusion:** In progress

**Keywords:** Central Keratoconus, Intrastromal Corneal Ring Segment, Biometry Changes.

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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**(CA) CATARACT**

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81. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Natalia Mussi

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**Service:** (CA) CATARACT

**CEP Number:**

5. ABSTRACT (REQUIRED):

**Title:** Exfoliation syndrome

**Author and Co-authors:** MUSSI.N, CAMPOS, M. S. Q.

**Purpose:** Exfoliation syndrome (XFS), is the most common identifiable cause of open-angle glaucoma world-wide. It is an age-related, systemic, disease characterized by the production and progressive accumulation of a fibrillar extracellular material in many organs and ocular tissues. This material is a deposite of white, flaky material in all anterior segment structures, including the iris, pupillary border, lens capsule, zonules, and trabecular meshwork. Also this syndrome cause pigment dispersion and leads to intraocular pressure elevated. Associations systemic are many cerebrovascular and cardiovascular diseases. The polymorphism in the gene LOXL-1 (lisyloxidase-like 1) was identified as one of the causes of XFS. This gene is essential for the formation, stabilization, maintenance, and remodeling of elastic fibers. The galactines, family of animal lecithines, are defined by the affinity for p-galactoside sugars.

**Methods:** This is an experimental study in which we used material (aqueous humor and anterior lens capsule) of 5 eyes, with XFS, and 10 eyes without the disease. The material was acquired during cataract surgery and immediately frozed. After that it will be processed and evaluated the presence of galactine 3, by the ELISA (Enzyme Linked Immunosorbent Assay) method.

**Results:** In progress

**Conclusion:** In progress

**Keywords:** Exfoliation syndrome, cataract

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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**(CO) CORNEA AND EXTERNAL DISEASE**

82. FIRST (PRESENTING) AUTHOR (REQUIRED):

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

**CEP Number:** 0506/2016

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- (UV) UVEITIS
- (US) OCULAR ULTRASOUND

**Deadline:** 11/2016

**FORMAT:**

Abstract should contain:

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

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

5. ABSTRACT (REQUIRED):

**Title:** Paecilomyces keratitis: a challenging infection

**Author and Co-authors:** Aline Couto Carneiro MD, Maria Cecilia Zorat-Yu, Arnaldo Lopes Colombo MD Ana Luisa Hofling-Lima MD, Denise de Freitas

**Purpose:** Paecilomyces sp are filamentous saprophytic fungi found worldwide mainly in soil and air. . Half of all reported paecilomycotic infection affect the eye, and many are refractory to conventional anti fungal agents most attributable to P.lilacinus, because the ability to develop resistance is superior others know fungus as Fusarium sp and Aspergillus sp. The common predisposing factors are refractive surgery, intra ocular lens implantation, ocular trauma and wearing of contact lenses.

**Methods:** We did a retrospective study between 1995-2015 of 21 patients developing Paecilomyces keratitis in this service .We reviewed risk factors,clinical and surgical treatment,complications,laboratory results and species identification. After clinical review, we compared with laboratorial Paecilomyces lilacinus isolated in eleven patients to find the sensible antifungal drugs and evaluating Minimal Inhibitory Concentrations (MIC) were required to inhibit the Paecilomyces lilacinus in each drug

**Results:** Most part of all developed this infection after eye surgery, followed by ocular trauma and contact lens.The main prescription topical antifungal drugs were amphotericin B and intracameral injection. Despite of that, they followed with worsening symptoms and were submitted keratoplasty

**Conclusion:** Paecilomyces lilacinus keratitis does not reliably respond to most frequently applied antifungal treatment ans has often therapeutic keratoplasty **Keywords:** Fungal infection, Paecilomyces lilacinus, corneal ulcer, fungal keratitis

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

**(CO) CORNEA AND EXTERNAL DISEASE**

83. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Cristina Cagliari

**e-mail:** cagliari.c@gmail.com

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

**CEP Number:** 1330/2016

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

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

5. ABSTRACT (REQUIRED):

**Title:** Evaluation of corneal changes induced by scleral contact lenses

**Author and Co-authors:** Cristina Cagliari, Denise de Freitas, Cesar Lipener, Helena Oliveira, Luiz Formentin, Myrna Serapiao dos Santos

**Purpose:** To evaluate the corneal changes induced by the use of scleral contact lenses, with analysis of specular microscopy and Scheimpflug images, and their possible correlation with Optic Coherence Tomography images.

**Methods:** A prospective and observational comparative case series will be conducted, including 50 patients who have two scleral lenses indication use: keratoconus or prior history of corneal transplantation. Inclusion criteria admits patients who are 18 years- old or older, had history of rigid gas permeable lenses use but did not feel comfortable, are able to collaborate with the exams and to manipulate the lenses and are able to provide free and informed consent. Exclusion criteria comprehend patients with active ocular infection, severe ocular trauma history, good vision in just one eye, have had corneal graft rejection and patients with intolerance to scleral contact lenses use. The selected patients will be followed in the Ophthalmology Department of Paulista School of Medicine and in the Paulista Eyes Hospital where they will receive complete ophthalmology evaluation, including:dynamic refraction, anterior biomicroscopy, specular microscopy, corneal pachymetry, Scheimpflug images and Optic Coherence Tomography studies.Scleral Contact Lenses Zenlens by Sol<sup>3</sup>tica<sup>®</sup> will be adapted by one of the ophthalmology researchers.After the adaptation period, patients will be examined with complete ophthalmology exams, repeating the same tests detailed above, in 30, 90 and 180 days from the beginning of scleral contact lens use.The statistical analysis will use T-Student test and chi square to analyze continuous and categorical datas,respectively. Only P values less than 0,05 will be cosidere

**Results:** Work in progress.

**Conclusion:** Work in progress.

**Keywords:** cornea, scleral contact lenses, keratoconus, keratoplasty

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.

**(CO) CORNEA AND EXTERNAL DISEASE**

84. FIRST (PRESENTING) AUTHOR (REQUIRED):

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

**CEP Number:** 934068/15

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**Deadline:** 11/2016

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

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

5. ABSTRACT (REQUIRED):

**Title:** Artificial cornea (KeraClear) implant assisted by femtosecond laser in eyes with corneal blindness

**Author and Co-authors:** Fernanda Machado Bezerra, MD, Charles Costa de Farias, MD, Natalia Mesquita, MD, Walton Nose, MD, Yichieh Shiuey, MD, José Álvaro Pereira Gomes, MD

**Purpose:** To evaluate the safety of KeraKlear implantation assisted by femtosecond laser in patients with corneal blindness.

**Methods:** Prospective, interventional, non-comparative and non-randomized study of a series

of cases. Between June 2016 and December 2016, the patients will have KeraKlear implantation assisted by femtosecond laser in one eye, by the same surgeon (W.N). For each eye, data will be collected and analyzed on the preoperative characteristics, intraoperative procedures, and postoperative course. Visual acuity, postoperative complications and device retention will be the main outcomes.

**Results:** In progress

**Conclusion:** In progress

**Keywords:** Keratoprosthesis, Keratoprostheses, corneal blindness , artificial cornea



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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**

85. FIRST (PRESENTING) AUTHOR (REQUIRED):

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

**CEP Number:** 0074/2016

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**Deadline:** 11/2016

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

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

5. ABSTRACT (REQUIRED):

**Title:** Photodynamic therapy for the treatment of severe progressive infectious keratitis and associated corneal melt

**Author and Co-authors:** Isa Maria Mendes, Ana Luísa Höfling-Lima, Eduardo Gayger Muller, Maria Cristina Nishiwaki-Dantas

**Purpose:** Investigate the utility and efficacy of PDT for the treatment of infectious corneal ulcers and associated corneal melting caused either by bacterial, fungus or other infectious agents.

**Methods:** Any patient with infectious corneal ulcer with or without melting that present for review at Ophthalmology Emergency Service of Hospital São Paulo or External Disease and Cornea Section Eye Department of Ophthalmology and Visual Sciences at the Federal University of São Paulo will be assessed against the criteria for inclusion in the study. The inclusion criteria are: progressive infectious keratitis with and / or corneal melting of infectious etiology despite the standard treatment and cases with no resolution of infectious keratitis and / or corneal melting in the period of two weeks with standard treatment. Then the PDT will be offered to the patient as an alternative or for the purpose of delaying the corneal therapeutic transplant. The PDT will be performed as the same steps of the standard protocol for CXL in keratoconus, known as Dresden protocol: (1) topical anesthesia, (2) removal of the epithelium, (3) instillation of riboflavin 5 in 5 minutes at half hour prior to corneal irradiation with UVA 365nm 3mw / cm (4). Then, two groups will be compared: the first group that were treated with standard treatment and PDT and the other group that were treated with standard treatment only.

**Results:** In progress.

**Conclusion:** In progress.

**Keywords:** Cornea, Crosslinking reagents/therapeutic use, Infectious keratitis/drug therapy, Bacterial keratitis/drug therapy, Fungal keratitis/drug therapy

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.

**(CO) CORNEA AND EXTERNAL DISEASE**

86. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** José Aparecido Job Neto

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

**CEP Number:** 1464/2016

3. PRESENTATION PREFERENCE (REQUIRED) Check one:

**Poster**

5. ABSTRACT (REQUIRED):

**Title:** Quality of life in individuals with keratoconus: the utility project

**Author and Co-authors:** José Job Neto, Veronica Yamada, Flavio E. Hirai

**Purpose:** to investigate quality of life among individuals with keratoconus

**Methods:** individuals with keratoconus from the Cornea and External Diseases Division of the Department of Ophthalmology (Federal University of São Paulo) were submitted to quality of life questionnaires (EuroQol 5D-3L and NEI-VFQ-25). Composite scores were calculated and compared between two groups defined by their presented visual acuity (Better than 20/60 vs. Worse or equal 20/60).

**Results:** 30 individuals (73.3% male) with mean (sd) age 22.8 (6.5) years were interviewed. Mean (sd) EQ-5D-3L index was 0.884 (0.087) for those with better visual acuity and 0.713 (0.239) for individuals with worse visual acuity (p=0.033). The mean (sd) visual analog scale scores were 73.8 (14.8) vs. 49.2 (18.8) (p=0.001). The mean (sd) NEI-VFQ-25 scores were 73.9 (6.2) and 69.3 (5.7) for those with better and worse visual acuity, respectively (p=0.0374).

**Conclusion:** Quality of life scores were lower among those with worse visual acuity. The ultimate goal of this project is to value health states in order to determine utility values for future health economic analysis.

**Keywords:** Keratoconus, NEI-VFQ-25, quality of life, EuroQol 5d-3L

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- (US) OCULAR ULTRASOUND

**Deadline:** 11/2016

**FORMAT:**

Abstract should contain:

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

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

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.

**(CO) CORNEA AND EXTERNAL DISEASE**

87. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** José Arthur Pinto Milhomens

**e-mail:** jamilhomens@hotmail.com

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

**CEP Number:** 0872/09

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

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

5. ABSTRACT (REQUIRED):

**Title:** Goblet cells density after use of topical immunomodulator in the treatment of patients with dry eye disease

**Author and Co-authors:** Jose Arthur P. Milhomens, Rossen Mihaylov Hazarbassanov, Nicolle Queiroz- Hazarbassanov, Jose Alvaro P. Gomes

**Purpose:** To determine efficacy and goblet cell density after treatment with an immunomodulating topical medication containing 0.05% ciclosporine A(CsA), for aqueous deficient dry eye(ADDE) and evaporative dry eye(EDE).

**Methods:** 17 patients were classified as ADDE and 15 as EDE. The following tests were performed during first visit(T0) and after BID treatment of CsA for one(T1) and three months(T3): impression cytology(IC) of superior and temporal conjunctiva followed by HE and HLA-DR immunostaining

**Results:** CsA treatment significantly improved in impression cytology total score in the temporal conjunctival region for EDE patients between T0 and T3. Moreover, there was an increase in goblet cell counts on the superior region of ADDE patients and a decrease in the percentage of positive cells for HLA-DR staining, both in the superior and temporal regions.

**Conclusion:** Our findings suggest that topical CsA treatment for ADDE patients improves superior ocular surface inflammation by increasing goblet cell counts and decreasing HLA-DR expression. On the other hand, for the EDE group, CsA treatment showed the reduction of ocular surface inflammation observed in IC total score reduction.

**Keywords:** aqueous deficient dry eye, evaporative dry eye, impression cytology, HLA-DR,

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**Purpose, Methods, Results,**  
**Conclusion.**

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

88. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Pablo Felipe Rodrigues

**e-mail:** drpablo.rodrigues@gmail.com

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

**CEP Number:** 4532040

5. ABSTRACT (REQUIRED):

**Title:** Corneal and quality of life analysis in individuals with keratoconus grade II submitted to sequential and/or simultaneous treatments of intrastromal ring and crosslinking

**Author and Co-authors:** Pablo Felipe Rodrigues, Denise de Freitas and Eliane Mayumi Nakano

**Purpose:** 1. To quantify the impact of low vision into the quality of life of patients before and after every procedure performed.

2. To report, quantify and analyze the changes in the corneal and internal wavefront aberrometer before and after every procedure specially the relationship between the optical quality system .

3. Quantify the changes in the optical system through the scatter and modulation transfer function index (it measures how faithfully the lens reproduces (or transfers) detail from the object to the image produced by the lens), thereby analyze the relationship among aberrometer index and visual acuity.

4. To determine the interference and/or synergistic action of cxi and icrs procedures in disease progression.

**Methods:** Selection and preoperative preparation:

3 main randomized groups will be set up.

Each group will consist of 30 patients. All patients will be submitted to complete eye preoperative examination. As complementary tests will be performed: Pentacam, wavefront analysis in mesopic condition without cycloplegia with pupil assessment to 4 mm and HD Analyzer. Patients will be oriented of any questions regarding trial procedures and the monitoring to be carried out and in case of agreement they will sign the consent form. There will be a questionnaire about quality of life previously elaborated and validated into Portuguese (25-item National eye Institute Visual Function Questionnaire) for completion before and after 3, 6 months any surgical procedure as all exams.

Staging of the groups

Group 1 (Intra-stromal ring implantation followed( 6 months) by Crosslinking)

Group 2 (CXL performance prior to Intra-stromal ring ( 6 months))

Group 3. (Simultaneous Procedures)

Inclusion criteria: Keratoconus progression based on the presence of two or more of the following criteria: increase (&#8805;0,5D) in the steepest keratometric maximum value between two pentacans. Patients without central corneal scarring, patients with other eye diseases and/or previous eye surgery are excluded. Patients without a history of previous eye infections or evolutionary grade II of keratoconus. Patients with progression criteria and between 15 to 30 years old.

**Results:** Recruitment phase

**Conclusion:**

**Keywords:** intracorneal ring, keratoconus, crosslinking, quality of vision, loss of vision,

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.

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**Purpose, Methods, Results,**  
**Conclusion.**

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

89. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Renata Ruoco Loureiro

**e-mail:** renata.ruoco@hotmail.com

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

**CEP Number:** 569480

5. ABSTRACT (REQUIRED):

**Title:** Analysis of cytokines and growth factors secreted by corneal limbal stem cells and action in the modulation of epithelial wound healing in vitro and in vivo

**Author and Co-authors:** Renata Ruoco Loureiro, Priscila Cardoso Cristovam, Joyce Luciana Covre, José Álvaro Pereira Gomes

**Purpose:** Identify cytokines and growth factors secreted by limbal stem cells and analyze its epithelial wound healing action, both in vitro and in vivo.

**Methods:** Limbal and corneal cells were obtained from corneal rings. For in vitro analysis of epithelial wound healing, corneal epithelial cells were cultured, injured and treated with the previously collected conditioned medium (CM) from limbal epithelial cultures, and fresh medium (FM) as control. Cytokines and growth factors secreted by limbal stem cells will be identified in the CM with conventional ELISA and Multiplex assay. For the in vivo analysis, experimental models will be injured and treated with previously collected CM, the epithelial healing will be analyzed clinically and by histology and immunohistochemistry.

**Results:** For the in vitro experiments, the initial proposal were to perform the wound healing assay with corneal epithelial cells incubated with CM without fetal bovine serum (FBS), but we could not observe cells migration for the wound healing. After this finds, we decided to compare CM without, with 2% and 5% of FBS. The complete healing was more effective and quickly using CM with 5% FBS, when compared to cells incubated with FM, and compared to CM without and with 2% of FBS.

**Conclusion:** The in vitro analysis suggested that the complete healing of corneal cells is directly linked to the concentration of FBS present in the medium, and the using CM with 5% FBS speeds up corneal epithelial wound healing in vitro. Further studies are required to prove the efficacy of the conditioned medium in the epithelial healing process of the cornea.

**Keywords:** Corneal limbal cells, intercellular signaling proteins, cytokines, paracrine communication, wound healing

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Deadline: 11/2016

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

Poster guidelines:  
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90. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Renata Tiemi Kato

**e-mail:** tiekato@gmail.com

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

**CEP Number:** 61285216

5. ABSTRACT (REQUIRED):

**Title:** Ocular surface in patients with inflammatory bowel disease

**Author and Co-authors:** Kato RT, Tigani N, Conti M, Portela R, Costa LA, Ambrogini Jr O, Freitas D, Moraes NSB

**Purpose:** To analyse ocular surface changes in patients with inflammatory bowel disease (preliminary study).

**Methods:** From May 2016 to November 2016 patients with inflammatory bowel disease from the Intestinal Disease Outpatient Clinic at Hospital São Paulo were prospectively recruited regarding evaluation of the ocular surface through a dry eye symptoms questionnaire (OSDI) and complete ophthalmologic examination including visual acuity measurement, slit-lamp examination and OCULUS Keratograph® evaluation). Ocular surface was analysed through the Break-Up Time test, Schirmer test, non-invasive Break-Up Time and Meibography . The study was approved by the institutional ethics committee and informed consent was obtained from all patients.

**Results:** Twenty-two patients were studied, 16 were female and average age was 41 years old (median = 40, min. = 18, max. = 68). Nine patients had ulcerative colitis, 11 had Crohn's disease, two cases it was not possible to conclude the final diagnosis yet. Three patients had symptoms that indicate severe dry eye syndrome, 6 moderate dry eye, 3 mild dry eye and 9 normal eyes. Thirty-five eyes had visual acuity equal or better than 20/30, 8 had 20/40 and one had 20/60. Twenty-two patients had signs of blepharitis, eight patients had a normal ocular surface, no patient had dry eye biomicroscopic signs. Average values of break up time were 7,5 in the right eye (median = 7, min = 1,4, max = 13) and 8,0 in the left eye (median = 8, min = 1,3, max = 13). Average values of non-invasive break up time were 12,1 in the right eye (median = 11,4, min = 3,8, max = 23,5) and 15,5 in the left eye (median = 14,6, min = 5,9, max = 22,2). Average values of Schirmer test without topical anesthesia were 24 in the right eye (median = 27, min = 3, max = 35) and 22,2 in the left eye (median = 22, min = 2, max = 35). Average values of Schirmer test with topical anesthesia were 24 in the right eye (median = 15, min = 3, max = 30) and 17,4 in the left eye (median = 18, min = 3, max = 35). Regarding the meibography, 13 eyes had a normal exam, 3 patients had a loss of Meibomius glands equal or less than ¼, 4 had a loss of ½ and one had a loss of ¾.

**Conclusion:** Patients with inflammatory bowel disease appear to have the potential for development of diseases of the ocular surface.

**Keywords:** dry eye syndromes, inflammatory bowel disease



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**Purpose, Methods, Results,**  
**Conclusion.**

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91. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (BE) OCULAR BIOENGINEERING

**CEP Number:** 05049-000

5. ABSTRACT (REQUIRED):

**Title:** Philosophy of technology in healthcare: critic of the technologic reason

**Author and Co-authors:** Paulo Schor

**Purpose:** Our goal in this project is to discuss the theoretical aspects of technology philosophy that can collaborate for a critical thinking about the technological development in the healthcare field. Technology is known as ideology, which means influence in economic, cultural and social issues. Therefore, especially in the healthcare field, the technological industrial production model appears as a factor of promotion of inequality of access to health services and dehumanization of care.

**Methods:** We'll have as basis the comprehension of technic and science as ideology from the German philosopher, Jurgen Habermas. Thinking of that, we'll start by discussing the technology potential of promoting social control from the philosopher Herbert Marcuse. This means thinking about technology's influence, also on cultural and economic aspects of society. This debate is enriched with works of philosophers such as Hans Jonas, Umberto Galimberti, Pierri Levy and José Ortega y Gasset.

**Results:** Technology Philosophy can help us reflect critically on the industrial production model of technological inputs for healthcare, motivating the search of alternative development innovation models and, mainly, motivating greater social participation in the progress process of technology.

**Conclusion:** Our reflection points out to the deceleration of technology input industrialization, leading each time more to a simpler production, cheap, accessible, sociably referenced and ecologically responsible.

**Keywords:** Technology Philosophy. Inequality in Healthcare. Humanization.

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92. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (BE) OCULAR BIOENGINEERING  
**CEP Number:** 04023-062

5. ABSTRACT (REQUIRED):

**Title:** Teaching ophthalmology to humans and machines

**Author and Co-authors:** Thiago Gonçalves dos Santos Martins, Ana Luiza Fontes de Azevedo Costa, Elizabeth Nogueira Martins, Otaviano Helene, Ricardo Vieira Martins, Andre Fraz?o Helene, Milton Ruiz Alves, Bruno Campos Souza, Marcio A. Marques, Paulo Schor

**Purpose:** To develop a new teaching method to humans and machines in order to train medical students and develop computer programs that will help with the eye diseases diagnosis.

**Methods:** For teaching medical students, we developed a model that resembles the human eye, simulating its main features, with a simple step by step manual which enables students to actively participate in the construction of the model. For teaching machines, digital image processing techniques have been applied to images from patients` retinas with posterior uveitis in order to perform the identification and targeting of the affected areas, assisting its observation and quantification of these regions and thus helping with the follow up of patients.

**Results:** Thirty medical students were given a lecture on direct ophthalmoscopy, 15 of them trained with the model and 15 with other students. We recorded the success rate and time taken to identify a numerical sequence of 6 digits in the model with different pupil sizes. After that, all 30 students carried out a real examination on a patient with dilated pupils. We recorded the success rate and time spent by students to identify injuries. We conducted a questionnaire with all students participating in the study with the model, and 93% of the respondents said that the playful activity with the model, which increased their interest of the subject, and repeated training with the model, were important for the retention of their knowledge. For teaching machines, the growth methods regions by Fuzzy and media were effective with respect to segmentation and quantification of pixels in regions that simulated the evolution of the retinal injuries from uveitis.

**Conclusion:** The use of alternative teaching strategies is efficient and can contribute effectively to the formation of memories and have a great impact on education. Teaching interpretation of images with the help of engineers using the technique of machine learning and digital imaging can be a useful method to aid the monitoring of patients with uveitis, for example. Teaching aspects of ophthalmic diagnosis to humans and machines could offer a better chance of diagnosis for all people, especially for those living in remote areas, where medical care is still scarce.

**Keywords:** teaching, machine learning, model, direct ophthalmoscopy

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93. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Victor Dias Bergamasco

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**Service:** (BE) OCULAR BIOENGINEERING

**CEP Number:** 0760/2016

5. ABSTRACT (REQUIRED):

**Title:** Artificial intraocular lens support device

**Author and Co-authors:** Victor Dias Bergamasco, Richard Yuri Hida Mauro and Silveira de Queiroz Campos

**Purpose:** To develop and test in cadaver eyes an artificial intraocular lens support device to solve aphakia

**Methods:** A tridimensional project was created and modified to fit in an animated 3D virtual eye.

The device was than materialized through a 3D printer and will be implanted in cadaver eyes.

The cadaver eyes will be submitted to an UBM and OCT analysis for a image study of the lens and device position.

**Results:** This study is in it's very beginning.

The researchers now have the first 3D printed version for test and it will be implanted over the next few days

**Conclusion:** Not enough data to take conclusions yet.

**Keywords:** aphakia, intraocular lenses, pseudophakia

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94. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (RX) REFRACTION-CONTACT LENSES

**CEP Number:** 1282/2015

5. ABSTRACT (REQUIRED):

**Title:** Measurement of visual acuity based on a smartphone application

**Author and Co-authors:** Daniel Diniz, MD; Sophia Zanatta, MD; Aline Lutz de Araujo, MD; Lucas Farias, MD; Paulo Schor MD; Rubens Belfort Jr., MD

**Purpose:** Validate Eyenetra as a reliable way of assessing visual acuity (VA), comparing and analyzing its results with those of the logarithm of the minimum angle of resolution (logMAR) chart, considering the characteristics of the participating patients, expanding and facilitating people's access to a visual acuity measurement.

**Methods:** 42 patients, between 18 to 80 years old answered simple questions in the form of a questionnaire, that evaluated some aspects such as age, education, eye diseases, smartphone usage frequency, among others. Soon after, the assessment of visual acuity through a LogMAR chart were submitted in monocular and binocular vision and, after, at Eyenetra device, always with the best possible correction. The data was compiled and analyzed in order to compare the quality of measurement by this device.

**Results:** There was a positive and statistically significant correlation between LogMAR and Eyenetra acuities ( $r = 0.745$  for binocular measurement,  $p < 0.01$ ,  $r = 0.845$  for monocular measurement,  $p < 0.01$ ). Considering binocular VA, the difference between the standard logMAR chart and Eyenetra was LogMAR 0.0548 (95% CI 0.0279 - 0.0816),  $p < 0.01$ . Considering OD alone, the difference was from LogMAR 0.0833 (95% CI 0.0470 - 0.0119),  $p < 0.01$ . There was no statistically significant difference between the results in relation to age, schooling or having a smartphone.

**Conclusion:** The Eyenetra device is a useful tool in VA measurement, when compared to the LogMAR chart. There was an overestimate, by the device, of less than one line (approximately 2.6 letters in the measurement of binocular acuity and 4.1 letters in the monocular measurement), considered an acceptable margin of error for measurement of population visual acuity.

**Keywords:** visual acuity, logmar, smartphone, application, eyenetra, netra

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95. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Andrea Oliveira Silva

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**Service:** (GL) GLAUCOMA

**CEP Number:** 326767/13

5. ABSTRACT (REQUIRED):

**Title:** The impact of filtering surgeries on quality of life of children with primary congenital glaucoma

**Author and Co-authors:** SILVA, A.O1, CAVASCAN, N2, BOTELHO, N. L. P3, GRACITELLI, C. P. B4, ROLIM DE MOURA, C.R4

**Purpose:** To evaluate the impact of filtering surgeries on the quality of life of children with primary congenital glaucoma (PCG).

**Methods:** The study is observational / descriptive. Children Aged from zero to 16 years, diagnosed with primary congenital glaucoma, who will be submitted to the surgery filtering Mytomicin C augmented trabeculectomy and glaucoma drainage device for uncontrolled glaucoma Were evaluated by two quality of life questionnaires: 1. Generic Quality of Life Questionnaire - Brazilian Version, Pediatric Quality of Life Inventory TM Version 4.0 (PedsQLTIM 4.0), 2. Visual Infant Function Questionnaire (QFVI). Both questionnaires will be applied before surgery and six months later. A form with socio-demographic data and a semi-structured psychological interview will be administered to all the parents / guardians in the initial contact after selecting the participants through analysis in medical records.

**Results:** A total of 9 patients were enrolled. All of them had at least one, with PCG Mean age was  $2.44 \pm 1.48$  years. For the QFVI analysis, mean total score in pre-operative visit was  $64.45 \pm 10.65$ , whereas the post-operative was  $64.68 \pm 8.82$  ( $p=0.559$ ). The lowest mean value ( $40.68 \pm 14.24$ ) was observed in the  $\hat{E}UR_{oe}$ Family impact subscale $\hat{E}UR_{\square}$  in the preoperative visit, and the highest mean value ( $86.54 \pm 7.54$ ) was observed in the  $\hat{E}UR_{oe}$ personality subscale $\hat{E}UR_{\square}$  in the preoperative visit. The mean score for the PedsQoL questionnaire was  $74.80 \pm 10.05$  in the preoperative visit and  $75.78 \pm 9.39$  in the postoperative visit ( $p = 0.868$ ). The lowest mean value ( $45.83 \pm 17.68$ ) was observed in the  $\hat{E}UR_{oe}$ educational subscale $\hat{E}UR_{\square}$  in the preoperative visit, and the highest mean value ( $86.00 \pm 17.82$ ) was observed in the  $\hat{E}UR_{oe}$ social subscale $\hat{E}UR_{\square}$  in the preoperative visit.

**Conclusion:** Filtering surgeries, such as trabeculectomy or glaucoma drainage device, do not seem to impact on quality of life of uncontrolled PCG children.

**Keywords:** Quality of life, glaucoma, child, surgery.

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96. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Service:** (GL) GLAUCOMA

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**Purpose, Methods, Results,**  
**Conclusion.**

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5. ABSTRACT (REQUIRED):

**Title:** Skin and eye thermography

**Author and Co-authors:** Daniel Augusto Ghiraldini Vieira, MD Tiago dos Santos Prata, PhD Izabela Almeida, MD1,2 Augusto Paranhos Junior, PhD

**Purpose:** To measure reproducibility of the FLIR thermal camera in the measurement of skin and eye temperature

**Methods:** Eight volunteers had thermograph assessment. Measurements were made from their fingers, back of the hand and eyes

**Results:** In progress

**Conclusion:** In progress

**Keywords:** thermography



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97. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**CEP Number:** 0

5. ABSTRACT (REQUIRED):

**Title:** Comparison of long and short-term intraocular pressure fluctuation patterns in patients with stable glaucoma: Is there a role for the use of the water-drinking test in these cases?

**Author and Co-authors:** Fabricio Rodrigues de Andrade, MD1, Izabela Almeida, MD1,2, Ana Luiza B Scoralick, MD3, Michele Ushida, MD2, Diego T Dias, MD1,2, Carolina Pelegrini Barbosa Gracitelli, MD, PhD1, Augusto Paranhos Jr, MD, PhD1 Fábio N Kanadani, MD, PhD3, Tiago S Prata, MD,

**Purpose:** To compare long (LT) and short-term (ST) intraocular pressure (IOP) fluctuation patterns, and to investigate the usefulness of IOP peak values as determined by the water-drinking test (WDT) in patients with stable open-angle glaucoma (OAG).

**Methods:** A prospective observational study was carried out in which stable OAG patients were consecutively enrolled. Key inclusion criteria were:  $\geq 805,5$  visual field (VF) tests,  $\geq 805,3$  disc photographs, and  $\geq 805,3$  years of follow-up without any changes on current medical regimen. Stable OAG was defined as nonprogressive VF results (both trend and event analyses) and absence of anatomical changes for at least 3 years. The LT parameters were obtained from isolated IOP measurements from each visit. To evaluate ST parameters, patients were submitted to a WDT (3 IOP measurements with 15 minutes intervals following ingestion of 800 mL of tap water), performed by one single experienced examiner. The following ST and LT parameters were compared: mean, peak and IOP fluctuation. The correlation and agreement between ST and LT parameters were determined. In addition, the frequency of significant WDT IOP peaks (defined as a difference  $>20\%$  between peak ST IOP and mean LT IOP) was investigated.

**Results:** Eighteen eyes from 18 patients were studied. Half of them were women. Mean age was  $62.4 \pm 13.5$  years. Patients underwent a mean of  $6.6 \pm 1.9$  VF tests, with a mean follow-up of  $4.2 \pm 1.1$  years. Mean and peak ST IOP correlated significantly with mean and maximum LT IOP, respectively ( $p < 0.01$ ). The correlation between ST and LT IOP fluctuation was not significant ( $p = 0.4$ ). Bland-Altman analysis showed limits of agreement larger than the clinically acceptable ( $>3$  mmHg) for IOP peak, mean IOP and IOP fluctuation, revealing poor agreement between ST and LT IOP parameters. Overall, 55.5% of these eyes (10 out of 18) with stable OAG showed significant IOP peaks in the WDT.

**Conclusion:** Although some long-term and short-term IOP parameters correlate significantly, short-term (WDT) results cannot be used to estimate the IOP profile (long-term patterns) of stable OAG patients, as their agreement are poor. Many of these patients (more than 50%) may experience significant short-term IOP peaks during the WDT despite long standing stable disease and unchanged medical regimen. As this likely represents false-positive results, we suggest that WDT outcomes alone should not be interpreted as indicators of unstable disease nor used to change treatment regimen in patients without anatomical/functional progression.

**Keywords:** glaucoma, intraocular pressure, water-drinking test

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Deadline: 11/2016

**FORMAT:**

Abstract should contain:

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

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

98. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Fernando Meister Martins

**e-mail:** fernando-meister@hotmail.com

**Service:** (GL) GLAUCOMA

**CEP Number:** 4561000

5. ABSTRACT (REQUIRED):

**Title:** Two types of scotoma in a single eye on a Humphrey visual field: a case report

**Author and Co-authors:** Roberto Murad Vessani, Danilo Andriatti Paulo, Fernando Meister Martins.

**Purpose:** This case's intent is to demonstrate two types of scotoma in the same eye, with two separate origins.

**Methods:** A 14-year-old boy had suffered traumatic injury to the left eye on December 2014. In May 2015, he underwent pars plana vitrectomy under a diagnosis of macular hole in the left eye. After the procedure visual acuity improved, he however developed a high intraocular pressure (IOP) on the left eye. He, then, was introduced to topical and systemic hypotensive drugs, and finally underwent trabeculectomy in June 2015 with normal IOP afterwards.

**Results:** Retinography showed a commotio-retinae involving superior temporal arcade as well as an increased cup to disc ratio. Humphrey visual field had an inferior nasal absolute scotoma, associated with an arcuate superior scotoma.

**Conclusion:** The inferior nasal absolute scotoma reflects the superior temporal arcade commotio-retinae. The superior arcuate scotoma is secondary to glaucomatous damage after the patient's first procedure, and is parallel to the increased cup-disc-ratio shown in retinography.

**Keywords:** Ocular Trauma, Glaucoma, Commotio Retinae, Humphrey Visual Field

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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**Purpose, Methods, Results,**  
**Conclusion.**

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

99. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Guilherme Eiichi da Silva Takitani

**e-mail:** guilherme.eiichi@gmail.com

**Service:** (GL) GLAUCOMA

**CEP Number:** 4049000

5. ABSTRACT (REQUIRED):

**Title:** Case report: Exfoliation syndrome in a black patient in latin america

**Author and Co-authors:** Guilherme Eiichi S Takitani, Alexandre G.B. Azevedo , Roberto Murad Vessani

**Purpose:** A 89-year-old black female was admitted with a 6-year history of advanced open angle glaucoma. Best corrected visual acuity were 20/400 and 20/60 Pseudoexfoliation material was noted on the iris, angle , and the lens capsule. Anterior Biomicroscopy revealed pseudoexfoliative material forming an evident outer ring and a less clear inner ring . Gonioscopy showed open angle , Sampaolexis's line , and the whitish material deposits . Fundus examination evidenced cup-to-disc ratio of 1.0 OU with peripapillary atrophy.

**Methods:** Case Report

**Results:** Not applies

**Conclusion:** In progress

**Keywords:** Exfoliation syndrome · black · pseudoexfoliation · Brazil · case report

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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**Conclusion.**

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

100. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Julia Corradi de Faria Andrade

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**Service:** (GL) GLAUCOMA

**CEP Number:** 322420091

5. ABSTRACT (REQUIRED):

**Title:** New considerations on the role of lamina cribrosa and choroid in glaucoma

**Author and Co-authors:** Julia Corradi de Faria Andrade Tiago Santos Prata Fabio Nishimura Kanadani Rafael Furlanetto

**Purpose:** To know the structural and functional abnormalities of the lamina cribrosa and choroid that are related to the development and progression of glaucoma, especially after the advent of the Enhanced depth imaging optical coherence tomography (EDI OCT), which made possible the detailed analysis of these structures in vivo. In addition, through a review of the existing literature, we intend to offer a critical analysis of the data, focusing on its clinical relevance, day-to-day applicability and offering future directions.

**Methods:** A literature review on the topics lamina cribrosa, choroid, glaucoma and Enhanced depth imaging optical coherence tomography (EDI OCT), using Latin American and Caribbean Literature in Health Sciences (LILACS) databases - Latin American Center and Caribbean Region of Health Sciences Information (Regional Medicine Library (BIREME), PUBMED, and Scientific Electronic Library Online (SciELO). As inclusion criteria, we selected articles (full text) in Portuguese, English, Spanish or French that have been published in the last six years (January 2010 to September 2016). Articles considered of relevance for the understanding of some topics were also included, even if their publication was previous.

**Results:** In progress

**Conclusion:** In progress

**Keywords:** glaucoma, lamina cribrosa, choroid, EDI OCT

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**

101. FIRST (PRESENTING) AUTHOR (REQUIRED):

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

**e-mail:** let\_star10@hotmail.com

**Service:** (GL) GLAUCOMA

**CEP Number:** 84917120

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**Purpose, Methods, Results,**  
**Conclusion.**

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

5. ABSTRACT (REQUIRED):

**Title:** Childhood glaucoma patients ocular surface analysis: comparing traditional clinical methods with Keratograph 5M

**Author and Co-authors:** Letícia Sant' Ana Cardoso da Silva, MD, Marina Paes Leme Moth? Neder, MD, Christiane Rolim de Moura, MD, PhD

**Purpose:** To evaluate the childhood glaucoma patients ocular surface, comparing traditional methods of evaluation of the ocular surface with OCULUS Keratograph® 5M.

**Methods:** Childhood glaucoma patients aged from 3 to 18 years were recruited from Department of Ophthalmology and Visual Science, Federal University of São Paulo. Exclusion criteria were: use of anticholinergic medication, aniridia, patients allergic to fluorescein and patients with allergic conjunctivitis diagnosis. Traditional methods of evaluation of ocular surface used were: break-up time analysis through instillation of fluorescein 2% eyedrops and clinical evaluation of meibomian glands using the modified table of International Workshop on Meibomian Gland Dysfunction. Results of traditional methods will be compared with OCULUS Keratograph® quantification of meibomian glands and non-invasive break-up time (NIK-BUT), using t-student test.

**Results:** In progress

**Conclusion:** In progress

**Keywords:** childhood glaucoma, ocular surface, Keratograph

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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**Purpose, Methods, Results,**  
**Conclusion.**

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

102. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Luis Filipe Nakayama

**e-mail:** nakayama.luis@gmail.com

**Service:** (GL) GLAUCOMA

**CEP Number:** 0

5. ABSTRACT (REQUIRED):

**Title:** Cellularity comparison in patients with closable angles undergoing laser iridotomy with pilocarpine or light in the contralateral eye

**Author and Co-authors:** Nakayama, LF, Kawamuro, M, Junior, LASM

**Purpose:** This study aimed to compare possible differences in cellularity in patients who underwent laser iridotomy, by means of two techniques: instillation of pilocarpine 1% or white light placed in the contralateral eye of the laser, both with purpose of inducing miosis in the eye of the study.

**Methods:** The iridotomy is performed in patients with eyes closed angle or closable angle. The patient will be informed about the procedure, will receive 1 drop of Tartrate of Brimonidine 0.2% in the eye of the study 30 minutes before the procedure is performed.

The patients will be randomly included in a group that is instilled 1 drop of 1% pilocarpine in the eye of the study, 30 minutes before the procedure or a group that a white light is placed in the contralateral eye.

The iridotomy will be held in the upper quadrant, from 11 am to 1 am, with initial energy 2-8mJ with topical anesthesia. Inflammation will be evaluated prior to the procedure, 30 minutes to 2 hours and 1 week later, and the results will be compared between the two groups. Patients will use prednisolone acetate 1% 6/6 hours and Brimonidine Tartrate 0.2% for 5 days, after the procedure whatever group they belong to.

**Results:** In progress

**Conclusion:** In progress

**Keywords:** Glaucoma, iridotomy, closed angle glaucoma



2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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**FORMAT:**

Abstract should contain:

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

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

103. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Marcos Paulo Suehiro Dantas

**e-mail:** suehiro.marcos@gmail.com

**Service:** (GL) GLAUCOMA

**CEP Number:** 795189

5. ABSTRACT (REQUIRED):

**Title:** Surgical outcomes of a small incision limbus-based revision for failed trabeculectomies

**Author and Co-authors:** Marcos P Suehiro Dantas, MD, Fabio Zantut, MD, Flavio S Lopes, MD, Syril Dorairaj, MD, Tiago S Prata, MD, PhD

**Purpose:** To report the initial outcomes of a small incision limbus-based surgical approach for restoring failed trabeculectomies.

**Methods:** Noncomparative, interventional case series in which all glaucoma patients, it included primary open-angle glaucoma, pigmentary glaucoma, secondary glaucoma and primary chronic angle-closure glaucoma, with a failed trabeculectomy and uncontrolled intraocular pressure (IOP) undergoing limbus-based revision between January 2013 and December 2015 were enrolled.

Uncontrolled intraocular pressure was considered as IOP $\geq$ 16mmHg after trabeculectomy, compared with the cup-disc ratio of each patient.

Key exclusion criteria were: ocular surgical procedures besides cataract extraction or trabeculectomy, age under eighteen and poor treatment adherence.

**Results:** In progress

**Conclusion:** In progress

**Keywords:** Trabeculectomy, glaucoma, limbus-based revision

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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104. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Mariana Kawamuro

**e-mail:** mkawamuro@gmail.com

**Service:** (GL) GLAUCOMA

**CEP Number:** 0

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**Purpose, Methods, Results,**  
**Conclusion.**

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

5. ABSTRACT (REQUIRED):

**Title:** Intraocular pressure comparison in patients with closable angles undergoing laser iridotomy with pilocarpine or light in the contralateral eye

**Author and Co-authors:** Kawamuro, M. Nakayama, LF. Junior, LASM.

**Purpose:** This study aimed to compare possible differences in intraocular pressure between patients who underwent laser iridotomy, by means of two techniques: instillation of pilocarpine 1% or white light placed in the contralateral eye of the laser, both with purpose of inducing miosis in the eye of the study.

**Methods:** The iridotomy is performed in patients with eyes closed angle or closable angle. The patient will be informed about the procedure, and will receive 1 drop of Tartrate of Brimonidine 0.2% in the eye of the study 30 minutes before the procedure is performed.

The patients will be randomly included in a group that is instilled 1 drop of 1% pilocarpine in the eye of the study, 30 minutes before the procedure or a group that a white light is placed in the contralateral eye.

The iridotomy will be held in the upper quadrant, from 11 am to 1 am, with initial energy 2-8mJ with topical anesthesia. Inflammation will be evaluated prior to the procedure, 30 minutes to 2 hours and 1 week later, and the results will be compared between the two groups. Patients will use prednisolone acetate 1% 6/6 hours and Brimonidine Tartrate 0.2% for 5 days, after the procedure whatever group they belong to.

**Results:** In progress

**Conclusion:** In progress

**Keywords:** intraocular pressure, pilocarpine, light, glaucoma, iridotomy, closed angle

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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**Purpose, Methods, Results,**  
**Conclusion.**

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

105. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Marina Paes Leme Mothé Neder

**e-mail:** ninaplmeder@hotmail.com

**Service:** (GL) GLAUCOMA

**CEP Number:** 194511

5. ABSTRACT (REQUIRED):

**Title:** Ocular surface analysis of children with glaucoma

**Author and Co-authors:** Marina Paes Leme Mothe Neder MD, Leticia Sant' Ana Cardoso da Silva MD, Christiane Moura Rolim MD, PhD

**Purpose:** To compare ocular surface tests in children with glaucoma to an aged-matched control group.

**Methods:** Childhood glaucoma patients aged from 3 to 18 years were recruited from Department of Ophthalmology and Visual Science, Federal University of São Paulo. Previous antiglaucomatous surgery was not an exclusion criteria, and these data were tabulated for analysis. Exclusion criteria were: use of anticholinergic medication, aniridia, patients allergic to fluorescein and patients with allergic conjunctivitis diagnosis.

These children were divided into two groups: 1. Children under no topical hypotensive medications, 2. Children using hypotensive eye drops for at least three months. Age-matched children with no ocular disease, except ametropia, were enrolled for the control group. Exclusion criteria were allergies, use of anticholinergic medication, aniridia, patients allergic to fluorescein, previous ocular surgeries, or use of any ocular medications. They were all submitted to: break-up time analysis through instillation of fluorescein 2% eyedrops and clinical evaluation of meibomian glands using the modified table of International Workshop on Meibomian Gland Dysfunction.

Results obtained in the two groups will be compared to results of control group, using Chi-square tests.

**Results:** in progress

**Conclusion:** in progress

**Keywords:** glaucoma in children , ocular surface in glaucoma

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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

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

106. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name:** Veronica Haysa Yamada

**e-mail:** veronicaepm77@gmail.com

**Service:** (GL) GLAUCOMA

**CEP Number:** 1945-11

5. ABSTRACT (REQUIRED):

**Title:** Evaluation of intracameral drainage implant position in pediatric glaucoma by anterior segment optical coherence tomography

**Author and Co-authors:** Veronica Haysa Yamada, Christiane Rolim de Moura, Norma Allermann, Vespasiano Rebouças-Santos

**Purpose:** To evaluate the position and length of the valve tube in the anterior chamber in pediatric glaucoma patients with drainage implant device.

**Methods:** Retrospective study of patients with pediatric glaucoma, submitted to surgical procedures at São Paulo Hospital - Federal University of São Paulo, from January 2006 to January 2015 (108 months). The intracameral portion of tube implant was evaluated with Visante OCT (Zeiss, software version 2.0.1.88) using a longitudinal scan of the tube. Measurements of the tube parameters were performed using calipers and the angle tool of the device's software and Image J's software applied to the images in RAW mode. The parameters of the tube considered were length from the beveled to the sclerolimbic junction, position: distance from the extremity of the tube to the anterior iris surface (T-I distance) and to the posterior endothelial surface (T-C distance) and the angle between the tube and the posterior endothelial surface (T-C angle). Age, gender, diagnosis, date of surgery and corneal transparency data were collected as well.

**Results:** Forty drainage implant tubes of 26 patients were included, 14 were male. Age ranged from 3 to 16 years-old. Etiological diagnosis included: primary congenital glaucoma (18 patients), secondary glaucoma after cataract surgery (3), and glaucoma associated to other anomalies (6). Of the 40 tubes, 22 were implanted in the right eye and 18 in the left eye. Superior-temporal region was the most frequent location for the tube (28), followed by the superior-nasal region (11) and nasal-inferior region (1). The mean (sd) intracameral length was 3.15 (1.05) mm. After an average of 30.7 months of follow-up, the mean (sd) T-I length was 1.42 (0.91) mm, T-C length was 0.64 (0.53) mm, and T-C angle was 19.54 (7.1) degrees. A second examination was performed after 48.5 months and the the mean (sd) T-I length was 1.48 (0.75) mm (p=0.501), T-C length was 0.48 (0.47) mm (p=0.212), and T-C angle was 13.80 (7.7) degrees (p=0.096)

**Conclusion:** Anterior segment optical coherence tomography was helpful to evaluate the position of drainage implant tube position in pediatric patients, sometimes aiding in planning a surgical intervention.

**Keywords:** pediatric glaucoma, visante, OCT, drainage implant, tube

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.

**(NO) NEURO-OPHTHALMOLOGY**

3. PRESENTATION PREFERENCE (REQUIRED) Check one:

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**FORMAT:**

Abstract should contain:

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

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

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**CEP Number:** 615947167

5. ABSTRACT (REQUIRED):

**Title:** Analysis and application of Hodapp-Parrish-Anderson criteria in standard automated perimetry tests of idiopathic intracranial hypertension subjects

**Author and Co-authors:** Bruno Mauricio Rodrigues de Oliveira, Danilo Andriatti Paulo, Luciana da Cruz Noia, Sandro Luiz de Andrade Matas, Sergio Henrique Teixeira

**Purpose:** The aims of the study are 1) to apply the Hodapp-Parrish-Anderson criteria in standard automated perimetry tests of idiopathic intracranial hypertension subjects in order to recognize the prevalence of positive exams against the criteria and 2) to analyse the characteristics and presentation pattern of the visual field exams.

**Methods:** A retrospective review of visual fields exams of patients diagnosed with idiopathic intracranial hypertension with disease activity. A Humphrey Field Analyzer was used for standard automated perimetry in all the participants. The analyzed exams will be submitted to Hodapp-Parrish-Anderson criteria for minimal abnormality of acquired glaucomatous damage in perimetry test and classified according diagnostic probability criteria established in the same score.

**Results:** In progress.

**Conclusion:** In progress.

**Keywords:** Idiopathic Intracranial Hypertension, visual field, Hodapp-Parrish-Anderson criteria, standard automated perimetry

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.

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108. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**CEP Number:** 3871909

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**FORMAT:**

Abstract should contain:

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

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

5. ABSTRACT (REQUIRED):

**Title:** Evaluation of tonometric measurements in idiopathic intracranial hypertension patients who underwent a lumbar puncture

**Author and Co-authors:** Elaine Regina Sato Watanabe

**Purpose:** To asses the relation between intraocular pressure and intracranial pressure.

**Methods:** Tonometric measurements of intraocular pressure before and after lumbar puncture measurements of intracranial pressure of patients diagnosed with idiopatic intracranial hypertension. All measurements were performed with the patients in decubitus position for a minimum of 10 minutes. Intraocular pressure was measured by Perkins tonometer.

**Results:** In progress.

**Conclusion:** In progress.

**Keywords:** Intracranial pressure, intraocular pressure, idiopatic intracranial hypertension, lumbar puncture, tonometry



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