



**26<sup>th</sup> RESEARCH  
DAYS**

# Postgraduate Program in Ophthalmology & Visual Sciences

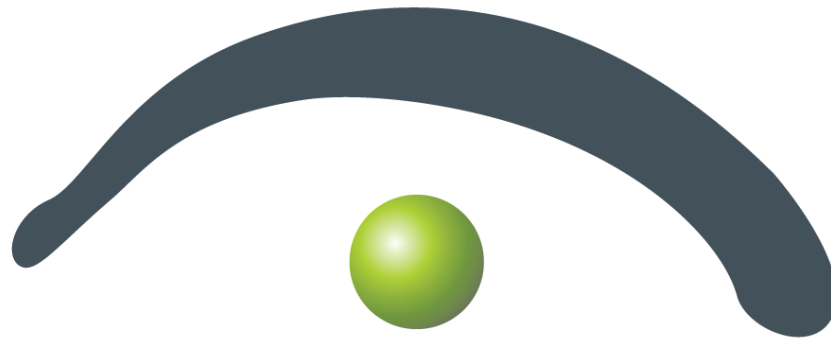
▶ **DECEMBER 12 - 13, 2024**

Organization

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

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 and posters by residents, fellows and postgraduate students enrolled in the Postgraduate Studies Program in Ophthalmology and Visual Sciences. The entire meeting, including papers and posters, is presented in english and active discussion with the faculty is prioritized. The scientific studies at each educational level (resident, fellow, and postgraduate student) are judged and the best in each category receives an award.

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 the **Research Days** as a first step to preparing them to participate in and interact with colleagues at international meetings.

The **26th Research Days | UNIFESP-EPM** will be held in São Paulo, on December 12 and 13, 2024, at the **Marcos Lindenberg theater, at 697, Pedro de Toledo Street**. Please visit our homepage <https://oftalmodapaulista.com.br/pg/mda/?p=526> for the complete Scientific Program and additional information.

### **FINANCIAL SUPPORT:**

PAEP CAPES: 2644/2024 / 88881.942566/2024-01

PROEX CAPES: 1969/2023 / 88881.892454/2023-01

**PROGRAM AT A GLANCE**  
**December 12, 2024 – Thursday**

8:00-8:10 AM	OPENING REMARKS	Denise de Freitas, Ivan Maynard Tavares and Mauro Campos
8:10-10:10 AM	PAPER PRESENTATION SESSION 1	GLAUCOMA Moderators: Carolina Pelegrini, Augusto Paranhos Jr., Ivan Maynard Tavares and Tiago Prata
10:10-10:30 AM	COFFEE BREAK and POSTER SESSION	
	GLAUCOMA(9), RETINA AND VITREOUS(12); ELECTROPHYSIOLOGY(1), UVEITIS (4); ORBIT (2), EPIDEMIOLOGY (2)	
10:30-11:50 AM	PAPER PRESENTATION SESSION 2	OCULOPLASTIC SURGERY, EPIDEMIOLOGY, LOW VISION and REFRACTION-CONTACT LENSES Moderators: Tammy Hentona Osaki, Solange Rios Salomão, Adriana Berezovsky and Mauro Campos
11:40AM-13:10PM	PAPER PRESENTATION SESSION 3	RETINA AND VITREOUS and ONCOLOGY Moderators: Michel Eid Farah, Caio Regatieri and Juliana Sallum
12:40-13:10 PM	INVITED LECTURE ANDRE ROMANO - The AI Revolution: Shaping a New Horizon in Eye Care	
13:10-2:10 PM	LUNCH BREAK	
2:10-3:50 PM	PAPER PRESENTATION SESSION 4	RETINA AND VITREOUS Moderators: Michel Eid Farah, Norma Allemann, Eduardo Rodrigues and Luiz Lima
2:40-3:10 PM	INVITED LECTURE JOSÉ AUGUSTO STUCHI - From Research to Market: Creating a Product and Building a Startup	
3:10-3:20 PM	Discussion and Interview	
3:20-3:50 PM	COFFEE BREAK and POSTER SESSION	
3:50-5:10 PM	PAPER PRESENTATION SESSION 5	RETINA AND VITREOUS Moderators: Rubens Belfort Jr, Cristina Muccioli, and Juliana Sallum
4:30-5:00 PM	INVITED LECTURE MATTHEW TREESE - Pathophysiology of Coloboma: Insights into Development and Retinal Detachments	
5:00-5:10 PM	Discussion and Interview	
5:10 PM	END OF SESSION	

**PROGRAM AT A GLANCE**  
**December 13, 2024 – Friday**

8:00 – 9:20 AM	PAPER PRESENTATION SESSION 6	CORNEA AND EXTERNAL EYE DISEASES Moderators:, Ana Luisa Hofling-Lima, Denise de Freitas and Luciene Barbosa de Sousa
09:20-09:40 AM	COFFEE BREAK and POSTER SESSION CORNEA AND EXTERNAL DISEASE (16), CATARACT (3), REFRACTION-CONTACT LENSES (3), OCULOPLASTIC SURGERY (4), ONCOLOGY (3), TRAUMA (1), NEURO-OPHTHALMOLOGY (3), STRABISMUS (3), OCULAR ULTRASOUND (1)	
9:40-11:50 AM	PAPER PRESENTATION SESSION 7	CORNEA AND EXTERNAL EYE DISEASES Moderators: José Álvaro Pereira Gomes, Lauro Oliveira and Mauro Campos
09:40-10:10 AM	LECTURE PEARSE KEANE - Artificial Intelligence in Ophthalmology: From Research to Real-World Impact	
10:10-10:20 AM	Discussion and Interview	
11:10-11:40 AM	INVITED LECTURE LEO ANTHONY CELI - Big Data in Healthcare: Transforming Ophthalmology Through Predictive Analytics INVITED	
11:40:11:50	Discussion and Interview	
11:50AM-12:30PM	PAPER PRESENTATION SESSION 7	CATARACT Moderators: Walton Nosé, Wallace Chamon, Paulo Schor and Renato Ambrósio
12:30-13:00 PM	INVITED LECTURE LUIS BRENNER - Refractive Lens Exchange: Evolving Perspectives in Vision Correction	
13:00:13:10 PM	Discussion and Interview	
13:10 PM	FINAL REMARKS AND AWARDS ANNOUNCEMENT Denise de Freitas, Ivan Maynard Tavares, Luiz Alberto Soares and Caio Regatieri	

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#### Information

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## **ORGANIZATION**

### **Postgraduate Program Coordination**

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Denise de Freitas

### **Program Directors**

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Carolina Pelegrini Barbosa Gracitelli  
Caio Vinicius Saito Regatieri

### **Scientific Committee**

---

Adriana Berezovsky  
Ana Luisa Hofling de Lima Farah  
Augusto Paranhos Jr.  
Carolina Pelegrini Barbosa Gracitelli  
Caio Vinicius Saito Regatieri  
Cristina Muccioli  
Denise de Freitas  
Eduardo Buchelle Rodrigues  
Ivan Maynard Tavares  
José Álvaro Pereira Gomes  
Juliana Maria Ferraz Sallum  
Lauro Augusto de Oliveira  
Luciene Barbosa de Sousa  
Luiz Henrique Soares Gonçalves de Lima  
Mauricio Maia  
Mauro Silveira de Queiroz Campos  
Michel Eid Farah  
Miguel Noel Nascentes Burnier  
Norma Allemann  
Paulo Schor  
Renato Ambrósio Junior  
Rubens Belfort Jr.  
Solange Rios Salomão  
Tammy Hentona Osaki  
Tiago dos Santos Prata  
Wallace Chamon  
Walton Nose

### **Oral Presentation Awards Committee**

---

Caio Vinicius Saito Regatieri  
Luiz Alberto S. Melo Jr.  
Luiz Henrique Soares Gonçalves de Lima  
José Álvaro Pereira Gomes

### **Poster Presentation Awards Committee**

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Cristina Muccioli  
Luiz Alberto S. Melo Jr.  
Luciene Barbosa de Sousa  
Walton Nose  
Wallace Chamon

### **Invited Speakers**

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Andre Romano  
José Augusto Stuchi  
Matthew Treese  
Leo Anthony Celi  
Pearse Keane  
Luis Brenner

**SCIENTIFIC PROGRAM**

**December 12, 2024 – Thursday**

<b>8:00-8:10 AM</b>	<b>OPENING REMARKS</b>	<b>Denise de Freitas, Ivan Maynard Tavares and Mauro Campos</b>	
<b>SESSION 1</b>	<b>PAPER PRESENTATION</b>		
<b>8:10-10:10 AM</b>	<b>GLAUCOMA</b>	<b>Moderators: Carolina Pelegrini, Augusto Paranhos Jr., Ivan Maynard Tavares and Tiago Prata</b>	
8:10-8:17 AM	Correlation between Structure, Function and Oxygenation in Glaucoma	Gilvan Vilarinho Da Silva Filho	PG1
8:20-8:27 AM	High-density Perimetry Analysis of the Foveal Avascular Zone	Gustavo Coelho Caiado	PG1
8:30-8:37 AM	A Randomized Clinical Trial of Slow Coagulation (SC-CPC) vs. Subliminal Subthreshold (SS-CPC) Transscleral Diode Laser Cyclophotocoagulation Procedure in Refractory Glaucomas	Luiz Arthur Franco Beniz	PG1
8:40-8:47 AM	Randomized Clinical Trial: Effects of Melatonin Replacement on Sleep Quality of Patients with Advanced Glaucoma	Priscilla Fernandes Nogueira	PG1
8:50-8:57 AM	The use of a new wireless type IV polysomnography to evaluate the association between obstructive sleep apnea syndrome and glaucoma: a prospective cross-sectional study.	Guilherme Barreto de Oliveira Ribeiro	PG0
9:00-9:07 AM	Triplonex (triple fixed combination) Use Evaluation In Patients With Glaucoma: Randomized Clinical Trial	Lilian França Machado	PG1
9:10-9:17 AM	Correlation of Eye Tracker reading Patterns and Functional and Structural Exams of Glaucoma Patients	Mariana Chiba Ikeda	PG1
9:20-9:27 AM	Efficacy and safety of continuous and micropulse transscleral cyclophotocoagulation in the treatment of refractory glaucoma: A randomized clinical trial.	Diogo Fajardo Correia Landim	PG1
9:30-9:37 AM	The Effect of Blood Pressure on Rates of Progression in Focal Ischemic versus Generalized Cup Enlargement Glaucoma Phenotypes	Marcus Vinicius Guerreiro Filho	PG1
9:40-9:47 AM	Correlation between ocular axial length and corneal biomechanics parameters, using the dynamic Scheimpflug analysis system in patients with primary open angle glaucoma	Felipe Taveira Daher	PG1
9:50-9:57 AM	Reproducibility of Automated Optic Nerve Head Hemoglobin Measurements in Patients with Glaucoma	Janaína Andrade Guimarães Rocha	PG1
10:00-10:07 AM	Association of Contrast, Font Size, and Spacing between lines for Improving Reading Speed in Glaucoma Patients	Lucca Sokabe	PIBIC
<b>10:10-10:30 AM</b>	<b>COFFEE BREAK and POSTER SESSION</b>		
<b>SESSION 2</b>	<b>PAPER PRESENTATION</b>		
<b>10:30-11:50 AM</b>	<b>OCULOPLASTIC SURGERY, EPIDEMIOLOGY, LOW VISION and REFRACTION-CONTACT LENSES</b>	<b>Moderators: Tammy Hentona Osaki, Solange Rios Salomão, Adriana Berezovsky and Mauro Campos</b>	
10:30-10:37 AM	Comparison between oxymetazoline 0,1% and phenylephrine 2,5% eyedrops on eyelid position in patients with aponeurotic ptosis	Lilian Emi Ohkawara	PG0
10:40-10:47 AM	Is It Worth Using Botulinum Toxin Injections for the Management of Mild to Moderate Blepharoptosis?	Gustavo David Ludwig	PG0
10:50-11:57 AM	Online training tool in pediatric ophthalmology care: a promissory way to fill the gap	Erika Mota Pereira	PG1
11:00-11:07 AM	Impact of assistive technology adaptation on reading performance in low vision	Paula Baptista Eliseo Da Silva	PG1
11:10-11:17 AM	Evaluation of the net promoter score (NPS) in teleconsultations at an early visual stimulation (EVS) service of infantile low vision	Ana Carolina Sarmiento Barros Carneiro	PG1
11:20-11:27 AM	Use of advanced resources in Mediphacos KTA lens: case series	Marcia Ferreira Chaves	Fellow
11:30-11:37 AM	Visual rehabilitation with contact lenses after penetrating keratoplasty: a series of cases	Nathalia Afonso Galao	Fellow
<b>SESSION 3</b>	<b>PAPER PRESENTATION</b>		
<b>11:40AM-13:10PM</b>	<b>RETINA AND VITREOUS and ONCOLOGY</b>	<b>Moderators: Michel Eid Farah, Caio Regatieri and Juliana Sallum</b>	

11:40-11:47 AM	Enhancement of Optical Coherence Tomography Images Using Adversarial Neural Networks: Impacts on Ophthalmic Practice	Fernando Henrique Flores Teixeira	PG0
11:50-11:57 AM	Automated machine learning model for fundus image classification by health-care professionals with no coding experience	Lucas Zago Ribeiro	PG1
12:00-12:07 PM	Photobiomodulation efficacy in age-related macular degeneration: a systematic review and meta-analysis of randomized clinical trials	Tiago Nelson de Oliveira Rassi	PG1
12:10-12:17 PM	Microperimetry results from patients who underwent gene therapy with Voretigene Neparvovec	Caio Henrique Marques Teixeira	PG1
12:20-12:27 PM	Screening for Autism Spectrum Disorder in children and adolescents with Leber's congenital amaurosis	Cecilia Francini Cabral De Vasconcelos	PG1
12:30-12:37 PM	Molecular and Clinical Characterization of CNGA3 and CNGB3 Genes in Brazilian Patients Affected with Achromatopsia	Rebeca de Azevedo Souza Amaral	PG1
<b>12:40-13:10 PM</b>	<b>INVITED LECTURE ANDRE ROMANO - The AI Revolution: Shaping a New Horizon in Eye Care</b>		
<b>13:10-2:10 PM</b>	<b>LUNCH BREAK</b>		
<b>SESSION 4 2:10-3:50 PM</b>	<b>PAPER PRESENTATION RETINA AND VITREOUS Moderators: Michel Eid Farah, Norma Allemann, Eduardo Rodrigues and Luiz Lima</b>		
2:10-2:17 PM	Innovative Technique to Measure the Position of Secondary Intraocular Lens Implants: A Pilot Study	Denise Pardini Marinho	PG1
2:20-2:27 PM	Silicone oil droplets released from intravitreal injections of Aflibercept and Bevacizumab on Human Retinal Pigment Epithelium (ARPE-19) and Muller Cells (MIO-MI) cells in vitro	Paula Sakemi Fukuhara	PG1
2:30-2:37 PM	Retinopathy of Prematurity: Accuracy of ROPScore and WINROP in a Brazilian population	Amanda Frota Lacerda Morais	PG1
<b>2:40-3:10 PM</b>	<b>INVITED LECTURE JOSÉ AUGUSTO STUCHI - From Research to Market: Creating a Product and Building a Startup</b>		
<b>3:10-3:20 PM</b>	<b>Discussion and Interview</b>		
<b>3:20-3:50 PM</b>	<b>COFFEE BREAK and POSTER SESSION</b>		
<b>SESSION 5 3:50-5:10 PM</b>	<b>PAPER PRESENTATION RETINA AND VITREOUS Moderators: Rubens Belfort Jr, Cristina Muccioli, and Juliana Sallum</b>		
3:50-3:57 PM	Prospective Biomarkers Study and Dichotomous Analysis in Patients with Diabetic Macular Edema: A Swept-Source OCT and OCT-Angiography Multimodal Images Evaluation and Insights from Aflibercept Treatment	Marcussi Palata Rezende	PG0
4:00-4:07 PM	OCT Angiography: Interplay Between Subfoveal Choroidal Thickness, Macular Thickness, and Visual Outcomes in Neovascular Age-Related Macular Degeneration Following Intravitreal Aflibercept Treatment	Daniel Prado Beraldo	PG1
4:10-4:17 PM	Genetic characteristics of 30 Brazilian families with inherited pediatric cataract	Olivia Araujo Zin	PG1
4:20-4:27 PM	Intra-arterial chemotherapy for retinoblastoma, outcomes analysis in 357 eyes: 13 years of experience in a referral center in Brazil	Luiz Fernando Teixeira	PG1
<b>4:30-5:00 PM</b>	<b>INVITED LECTURE MATTHEW TREESE - Pathophysiology of Coloboma: Insights into Development and Retinal Detachments</b>		
<b>5:00-5:10 PM</b>	<b>Discussion and Interview</b>		
<b>5:10 PM</b>	<b>END OF SESSION</b>		



SCIENTIFIC PROGRAM

December 13, 2024 – Friday

<b>SESSION 6</b>			
<b>8:00 – 9:20 AM</b>			
<b>PAPER PRESENTATION</b>			
<b>CORNEA AND EXTERNAL EYE DISEASES</b>			
<b>Moderators: Ana Luisa Hofling-Lima, Denise de Freitas and Luciene Barbosa de Sousa</b>			
8:30-8:37 AM	Clinical outcome in patients with infectious keratitis treated with Rose Bengal Photodynamic Antimicrobial Therapy (RB-PDAT) at the Federal University of Sao Paulo (UNIFESP)	Aileen Miwa Tabuse	PG0
8:40-8:47 AM	Panel of tear and serum biomarkers in keratoconus	Renato Galão Cerquinho Leça	PG1
8:50-8:57 AM	Rose Bengal Photodynamic Antimicrobial Therapy (RB-PDAT) as an adjuvant treatment for <i>Acanthamoeba</i> Keratitis in Sao Paulo Brazil	Camila Kase	PG1
9:00-9:07 AM	Comparison of in vivo confocal microscopy, corneal shaving culture and pcr for diagnosis of <i>Acanthamoeba Keratitis</i>	Renata Cavalcanti Portela Boro	PG0
9:10-9:17 AM	The interaction of <i>Acanthamoeba polyphaga</i> cysts and trophozoites with human macrophages	Larissa Fagundes Pinto	PG1
<b>09:20-09:40 AM</b>			
<b>COFFEE BREAK and POSTER SESSION</b>			
<b>SESSION 7</b>			
<b>9:40-11:50 AM</b>			
<b>PAPER PRESENTATION</b>			
<b>CORNEA AND EXTERNAL EYE DISEASES</b>			
<b>Moderators: José Álvaro Pereira Gomes, Lauro Oliveira and Mauro Campos</b>			
<b>09:40-10:10 AM</b>			
<b>INVITED LECTURE</b>			
<b>PEARSE KEANE - Artificial Intelligence in Ophthalmology: From Research to Real-World Impact</b>			
<b>10:10-10:20 AM</b>			
<b>Discussion and Interview</b>			
10:10-10:17 AM	Corneal Confocal Microscopy Findings in Patients with Sjogren's Disease and Small Fiber Neuropathy	Laura Caldas dos Santos	PG1
10:20-10:27 AM	Safety of Ocular Intrastromal Micropuncture on Eye Bank Corneas Using a Tattoo Machine	Michelle de Lima Farah Santinello	PG1
10:30-10:37 AM	Comparison of Donor Corneas with and without Descemet Membrane in Deep Anterior Lamellar Keratoplasty with Intraoperative Perforation	Constantin Philippe Salha	PG0
10:40-11:47 AM	Evaluation of the therapeutic effects of autologous serum and platelet-rich plasma eye drops in ocular surface reconstruction	Italo Pena de Oliveira	PG1
10:50-10:57 AM	Prevalence and risk factors for dry eye disease: the Sao Paulo dry eye study	Leonardo Guedes C. Marculino	PG1
<b>11:10-11:40 AM</b>			
<b>INVITED LECTURE</b>			
<b>LEO ANTHONY CELI - Big Data in Healthcare: Transforming Ophthalmology Through Predictive Analytics</b>			
<b>11:40:11:50</b>			
<b>Discussion and Interview</b>			
<b>SESSION 7</b>			
<b>11:50AM-12:30PM</b>			
<b>PAPER PRESENTATION</b>			
<b>CATARACT</b>			
<b>Moderators: Walton Nosé, Wallace Chamon, Paulo Schor and Renato Ambrósio</b>			
11:50-11:57 AM	Quality of life, high order aberrations and centralization of 3 types of diffractive lenses implanted in patients undergoing phacoemulsification.	Ivan Corso Teixeira	PG1
12:00-12:07 PM	Value-based Health Care Analysis in Cataract Surgery	Raphael de Faria Schumann	PG1
12:10-12:17 PM	Correlations Between Ocular Landmarks and Effective Lens Position	Felipe Marques C. Taguchi	PG1
12:20-12:27 PM	Trifocal intraocular lenses: astigmatism magnitude and axis for non-toric and low-powered toric correction	Arthur Buffara Van Den Berg	PG1
<b>12:30-13:00 PM</b>			
<b>INVITED LECTURE</b>			
<b>LUIS BRENNER - Refractive Lens Exchange: Evolving Perspectives in Vision Correction</b>			
<b>13:00:13:10 PM</b>			
<b>Discussion and Interview</b>			
<b>13:10 PM</b>			
<b>FINAL REMARKS AND AWARDS ANNOUNCEMENT</b>			
<b>Denise de Freitas, Ivan Maynard Tavares, Luiz Alberto Soares and Caio Regatieri</b>			

**POSTERS**

**December 12, 2024 - Thursday**

**3:05-3:20 PM POSTER SESSION 1**

**GLAUCOMA(9), RETINA AND VITREOUS(12); ELECTROPHYSIOLOGY(1), UVEITIS (4); ORBIT (2), EPIDEMIOLOGY (2)**

Adj+a2:c22uvant treatments in conventional therapy of glaucoma	Vinicius Costa Outi	PIBIC
Angle closure glaucoma secondary to multiple ciliary body cysts and increased lens vault	Pedro Fukui Umeta	R1
Glaucoma following cosmetic high-intensity ultrasound of the eyelid: a case report	Bárbara Moreira Ribeiro Trindade Dos Santos	R1
Glaucoma secondary to angle recession: a case report	Thiago Terzian Ganadjian	R1
Reading performance in glaucoma patients vs control patients.	Ugor Tomaz Fernandes	R3
O uso da trabeculoplastia seletiva a laser para controle da pressão intraocular em pacientes com uveíte quiescente	Victor Cavalcante Muricy	R4
Analysis of intraocular pressure and vascularization of the optic disc and macula after aerobic activity	Glauco Sérgio Avelino de Aquino	R4
Evaluation of visual function in patients with glaucomatous optic neuropathy	Bruno Henrique Vieira Escute	PG0
The effectiveness of the current clinical paradigm for the diagnosis of glaucoma	Paula Azevedo Alhadeff	PG1
Analysis of the Impact of the Modified Frailty Index (mfi-11), Optical Coherence Tomography Biomarkers, and Laboratory Exams on the Response to Intravitreal Anti-VEGF Treatment in Diabetic Macular Edema	Leonardo Ajuz do Prado Oliveira	R2
Impact of handheld retinal fundus camera artifacts on deep learning model performance for the classification of diabetic retinopathy	Iago Diógenes Azevedo Costa	R3
Microperimetric evaluation of treatment of chronic central serous chorioretinopathy with two micropulsed laser strategies	João Gabriel Alexander	R3
Choroidal Thickness and Its Impact on Micropulse Laser Outcomes in Chronic Central Serous Chorioretinopathy	Pedro Leite Costa Franco	R3
Unmasking Biases and Navigating Pitfalls in the Ophthalmic Artificial Intelligence Lifecycle: A Review	Frederico do Carmo Novaes	R4
Comparison of Analgesic Effects of Medications Before Laser Panretinal Photocoagulation for Diabetic Retinopathy	Vinicius Oliveira Pesquero	R4
A longitudinal analysis of the efficacy and security of a new antiangiogenic drug derived from chemically modified heparin mimetics (mhpep), both isolated and combined with anti-VEGF	Alex Treiger Gruppenmacher	PG1
Optical coherence tomography angiographic evaluation of macular vessel density in diabetic macular edema after intravitreal dexamethasone implants: a prospective interventional trial	Nelson Chamma Capelanes	PG1
12-steps teleophthalmology service framework	Stefano Neto Jai Huyn Choi	PG1
Post surgical endophthalmitis treatment with antibiotics associated or not with pars plana vitrectomy - a randomized clinical trial	Vinicius Campos Bergamo	PG1
Photodynamic Therapy with Indocyanine Green for the Treatment of Chronic and Persistent Central Serous Chorioretinopathy	Gabriel Nunes de Figueiredo Cavalcanti	Fellow
Transpupillary Macular Phototherapy for the Treatment of Chronic and Persistent Central Serous Chorioretinopathy	Luca Bongiovanni de M. Gonçalves	Fellow
Case Report: Retinal findings on Parry-Romberg Syndrome	Antonio Morais da Silveira Junior	R1
Masquerade Syndrome as the Initial Presentation of Peripheral T-cell Lymphoma not otherwise specified (PTCL-NOS): A Case Report	Cindy Lie Tabuse	R1
Simultaneous atypical manifestations of ocular toxoplasmosis: case report	Wakana Masu	R1
Ocular manifestations as first presentation of microscopic polyangiitis	José Levi Tavares Cavalcante	R1
Clinical features and epidemiological assessment of patients with Acute Retinal Necrosis.	Joao Victor F. Fabricio	R4
Ophthalmic Artery Pseudoaneurysm Post-Enucleation in a Patient with Self-Evisceration	Sérgio Nakamura Júnior	R1
Analysis of infectious preseptal and orbital cellulitis cases admitted to the Eye Emergency Department at the Federal University of Sao Paulo between 2022 and 2024	Lucas Henrique Pereira	R3
Evaluating the Accuracy of Patient Referral to a Quaternary Health Center for Pterygium Diagnosis and Treatment	Maurício Pessôa Lima Filho	R3
Epidemiological statistical analysis comparing public and private care at the Ophthalmology Emergency Room in the city of Sao Paulo, involving Hospital Sao Paulo x H.Olhos.	Pedro Antonio Nogueira Filho	PG1

POSTERS

December 13, 2024 - Friday

09:35-09:55 AM POSTER - SESSION 2

CORNEA AND EXTERNAL DISEASE (16), CATARACT (3), REFRACTION-CONTACT LENSES (3), OCULOPLASTIC SURGERY (4), ONCOLOGY (3), TRAUMA (1), NEURO-OPHTHALMOLOGY (3), STRABISMUS (3), OCULAR ULTRASOUND (1)

Scleritis Etiology in a Population of Patients in The City of São Paulo.	Vitor L Salles Bernardino Prata	Fellow
Validation of Eye Bank-Prepared Posterior Lamellar Corneal Tissue for Use in Endothelial Keratoplasty	Marilia Rocha Costa	Fellow
Evaluation of Intravascular Chemoembolization with Mitomycin C (MICE) for Corneal Neovascularization	Camila Garcia de Souza Trancoso	Fellow
Unilateral corneal ectasia secondary to compulsive ocular manipulation - a case report.	Gustavo Gabriel Zonaro	R1
Perspectives of Porcine Corneal Transplantation	Henrique Lage Ferreira Ferrer	R2
Comparison of in vivo confocal microscopy, corneal shaving culture and PCR for diagnosis of infectious keratitis, excluding <i>Acanthamoeba</i> Keratitis	Luiza Sousa Soares	R2
The Use of Plasma in Treating Dry Eye Associated with Meibomian Gland Dysfunction	Carolina R. Cunha G. Drumond	R2
Clinical and tomographic effects of peripheral corneal crosslinking in patients with previous keratoplasty for keratoconus	Carolina Ferreira Huang	R4
Rates and types of complications during and after intrastromal ring implantation by surgeons in training	Vitor Dias Gomes Barrios Marin	R4
Visual outcome of patients undergoing intrastromal ring implantation by surgeons in training	Bernardo F. Rodrigues Caldas	R4
Ocular Allergy: Examining Clinical Aspects and Quality of Life Outcomes	João Victor Borges Gomes	R4
Experimental evaluation of insulin eye drops on cell healing	Mariana Oliveira Xavier Araujo	R4
Seasonal trending of <i>Acanthamoeba</i> keratitis in a reference service	Guilherme Niciunovas	R4
Evaluation of Predisposing Factors for <i>Acanthamoeba</i> Keratitis in Contact Lens Wearers	Itala de Moraes Vieira Gatti	PG1
Cyst density and morphological assessment in patients with keratitis caused by <i>Acanthamoeba</i> spp. by In Vivo Confocal Microscopy (IVCM) after 6 months on topical treatment.	Luiz Guilherme Ito da Cruz	PG1
Prediction of the small aperture intraocular lens on visual acuity in patients with keratoconus	Roberta M. Van Den Berg	PG1
Adhesion of <i>Acanthamoeba</i> spp. Isolates to Contact Lenses After Treatment by Electroporation	Raphael Barcelos	PG1
Cataract Screening using Eyer 2 Device at the Cataract Division of UNIFESP	Hugo Xavier Rocha Filho	R2
Validation of a Cost-Effective Software for Objective Feedback of Capsulorhexis	Arnaldo Roizenblatt	R3
A Randomized Clinical Trial Comparing 4mg Single Subtenon Triamcinolone Acetate Injection and Standard Topical Corticosteroid Regimen in Cataract Surgery Recovery	Pedro de Faria Gusmão	R3
Decentering in scleral contact lenses: a cross-sectional study	Fernando Max Alves Ferreira	R4
A systematic review of observational studies on the use, maintenance and care of contact lenses.	Helena Maria Costa Oliveira	PG0
Scleral contact lenses in normal corneas: is it possible to improve visual performance?	Cristina Cagliari	PG1
Influence of eyelid spasms on intraocular pressure	Tulio Ruiz Eschiapati	R3
Evaluation of the efficacy of the use of subcutaneous doxycycline injection for the treatment of malar edema, malar mounds and festoons	Amanda Thum Welter	R3
The Babinski type 2 sign in hemifacial spasm patients	Flavio de Avila Fowler	R4
Outcomes of Lacrimal Patency Following Inferior Eyelid Reconstructive Surgery with canalicular involvement after Trauma, using Johnson Wire	Jose Rodolfo Mariani Radaeli	R4
Mortality profile of pediatric eye cancer from 2010 to 2022 in Brazil.	José de Paula Barbosa Neto	R2
Pseudoretinoblastoma at an ocular oncology referral center in Brazil: epidemiological analysis	Matheus Ferreira Santos da Cruz	R2
Mortality Patterns of Malignant Neoplasms of the Eye in Individuals Over 65 in Sao Paulo from 2010 to 2022	Daniel Trahtman de Boer	R2
Ocular penetrating trauma with glass shards with intraocular foreign bodies in the anterior chamber and vitreous.	Daniela Bueno Larrubia	R1
Case Report: Aneurysm of the Right Posterior Communicating Artery Presenting with Thunderclap Headache and Ocular Motor Nerve Palsy	Fernanda Matos e Oliveira	R1
Case Report: Sixth Cranial Nerve Palsy in a Child Secondary to Spontaneous Hemorrhage in an Arachnoid Cyst	Kristian Holanda Nogueira	R1
Acute ischemic event unveiling an incidental pituitary tumor with significant visual field loss	Rafael Silveira Feitosa	R1



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Incidence and risk factors associated with the development of ocular changes in premature infants.	Larah Rebeca Diogenes Holanda Machado	Fellow
Automated Diagnosis of Strabismus in Five Diagnostic Gaze Positions Using Videos with Cover Test	Paula Dias Basso	Fellow
Refractive errors in preterm infants in a tertiary care hospital	Maria Gabriela D Melo Gusmão	R4
Real World Evidence of the Use of Cloudscaper Optotypes versus LEA Symbols for Virtual/Digital Visual Acuity Measurement in Children 3 to 16 Years Old	Cristiana Ronconi Lopes	PG1
Color Doppler Imaging of the Eye and Orbit: 10-year retrospective evaluation	Pedro Fernandes Souza Neto	R4

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Keywords

Poster guidelines:  
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**Advisor: Augusto Paranhos Jr.**

**CEP Number: 52700-221**

**5. ABSTRACT (REQUIRED):**

**Title:** Correlation between Structure, Function and Oxygenation in Glaucoma

**Author and Co-authors:** Gilvan Vilarinho da Silva Filho, Felipe Zocatelli Yamamoto, Olivia Moura de Paula Ricardo, Sergio Henrique Teixeira, Tiago Santos Prata, Carolina Pelegrini Barbosa Gracitelli, Augusto Paranhos Junior

**Purpose:** Perform a correlation between perimetry parameters (Mean Defect-MD), Laguna (Globin Distribution Factor-GDF, Globin Individual Pointer-GIP, Deep Learning-DL and Hb Total) and OCT (nerve fiber layer-RNFL and ganglion cells-GLC ).

**Methods:** We included 245 eyes from 142 glaucoma patients. Retinography and OCT were performed using Triton and visual field (CV) using Octopus 600. Retinography images were analyzed using Laguna version 4.0. To analyze the correlation between structural and functional variables, the generalized estimation equation was used.

**Results:** We included 118 male and 127 female patients, with a mean age of 64.56. The MD average was 6.46. The mean DL was 0.352, GDF was -39.163 and Hb Total was 65.98. The mean RNFL was 75.2 and the GCL was 89.46. There was a statistically significant correlation (CES) between the MD and the parameters DL, GDF and GIP in the univariate analysis (AU), but only with the GDF in the multivariate analysis (AM). There was CES between the mean RNFL and the parameters DL, GDF, GIP and Total Hb in UA, and with DL, GDF and Total Hb in AM. CES also occurred between the mean of GCL and the parameters DL, GDF, GIP and Total Hb in the UA, but only with the Total Hb in the AM. There were also CES between the Total Hb of the inferior temporal sector (TI) of the Laguna (271-310°) and the mean of the RNFL and GCL of the IT sector of the OCT.

**Conclusion:** The study showed CES between the functional parameters of the CV and the structural parameters of the OCT and the Laguna. As the OCT is a high-cost exam, the Laguna ONhE may prove to be an alternative software in the evaluation of the diagnosis and progression of glaucoma.

**Keywords:** glaucoma; perfusion; perimetry; oxygenation

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**Advisor: Augusto Paranhos Jr.**

**CEP Number: 74120-110**

**5. ABSTRACT (REQUIRED):**

**Title:** High-density Perimetry Analysis of the Foveal Avascular Zone

**Author and Co-authors:** Gustavo Coelho Caiado, MD; Gustavo Albrecht Samico, MD; Gilvan Vilarinho da Silva Filho, MD; Sergio Henrique Teixeira, MD, PhD; Tiago dos Santos Prata, MD, PhD; Carolina P. B. Gracitelli, MD, PhD; Augusto Paranhos Jr, MD, PhD

**Purpose:** The aim of our study was to evaluate the association between foveal avascular zone (FAZ) parameters (area, perimeter and circularity) with macular high density perimetry (Octopus Macular program), macular vascular density (mVD) and ganglion cells layer thickness (GCLT) in glaucoma patients.

**Methods:** 89 eyes of 57 glaucoma patients were included. Perimetry was performed using Octopus 900 Macular and G program. FAZ, mVD and GCLT were evaluated using Triton angio-OCT. Vascular parameters were: FAZ area, perimeter and circularity as also mVD. Visual field (VF) variable was macular mean deviation (mMD). GCLT evaluation included total, superior and inferior means. Vascular parameters were considered dependent variables and GCLT independent for structure/structure analysis. For structure/function analysis VF parameters were the dependent variables and vascular parameters, independent. Generalized mixed model was used to adjust the intereye correlations. FAZ parameters were automatically calculated using ImageJ.

**Results:** 30 women and 27 men were included. mMD and mVD were significant associated with FAZ area and circularity (p

**Conclusion:** When using high density perimetry, mMD were associated with FAZ parameters in glaucoma patient. GCLT and mVD were also associated with larger FAZ area and perimeter and loss of FAZ circularity. FAZ parameters were correlated with superior GCLT, but not with inferior GCLT. This region of interest approach could be used for better structure and function evaluation.

**Keywords:** OCT angiography; glaucoma; foveal avascular zone; perimetry

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**Advisor: Augusto Paranhos Jr.**

**CEP Number: 74180-040**

**5. ABSTRACT (REQUIRED):**

**Title:** A Randomized Clinical Trial of Slow Coagulation (SC-CPC) vs. Subliminal Subthreshold (SS-CPC) Transscleral Diode Laser Cyclophotocoagulation Procedure in Refractory Glaucomas

**Author and Co-authors:** Luiz Arthur Franco Beniz (PG1), Augusto Paranhos Junior (Advisor)

**Purpose:** To evaluate the effectiveness of transscleral diode laser cyclophotocoagulation in treating refractory glaucoma, comparing the results between the continuous slow-coagulation mode (SC-CPC) and the subliminal subthreshold mode (SS-CPC).

**Methods:** Multicenter, prospective, randomized clinical trial involving 60 eyes from patients with refractory glaucoma. Participants were randomly assigned to either SC-CPC or SS-CPC, using the Vitra 810 Laser System and the SubCyclo® Laser Probe. Inclusion criteria were patients aged 18 to 90 with uncontrolled intraocular pressure (IOP) under maximum therapy. Exclusion criteria were albinos, or single-eye patients, pediatric, or neovascular glaucomas, uveitis, significant scleral thinning, or corneal conditions preventing IOP assessment. Patients will be followed for 18 months, with primary outcomes including IOP reduction to a range of 6-21 mmHg and a decrease of at least 20% from baseline. Secondary outcomes are the number of hypotensive medications, postoperative complications, and the need for re-treatment.

**Results:** Study still in progress

**Conclusion:** Study still in progress

**Keywords:** glaucoma, cyclophotocoagulation, intraocular pressure, slow coagulation, micropulse

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**Advisor: Augusto Paranhos Jr.**

**CEP Number: 1023/2020**

**5. ABSTRACT (REQUIRED):**

**Title:** Randomized Clinical Trial: Effects of Melatonin Replacement on Sleep Quality of Patients with Advanced Glaucoma

**Author and Co-authors:** Priscilla Fernandes Nogueira, Monica Levy Andersen, Carolina Pelegrini Barbosa Gracitelli, Augusto Paranhos Jr.

**Purpose:** to evaluate whether oral administration of melatonin in patients with sleep disorders and advanced glaucoma would improve the sleep pattern observed through actigraphy and sleep quality questionnaires.

**Methods:** A prospective, randomized, parallel, crossover and double-blind therapeutic-type clinical study was performed at the Glaucoma Division and Department of Psychobiology at the Federal University of São Paulo - UNIFESP/EPM and Eye Hospital Visao Laser - Santos/SP. The study included 64 patients, 32 for the melatonin group and 32 for the placebo group. The age range of volunteers will be over 40 years old and under 80 years old. All volunteers will undergo a complete ophthalmologic evaluation (including clinical history, biomicroscopy, visual acuity with best correction, gonioscopy, intraocular pressure measurement using Goldmann applanation tonometry, fundoscopy using 78 diopter lens and Humphrey automated perimetry 24-2 SITA-Standardt, and answer a sleep quality questionnaire. Every participant will receive the medication and placebo for a period of 30 days in different times, during which they will all be evaluated with an actigraphy, and sleep quality questionnaire, exam on day 0 and after on day 30, then discontinuing the use of the medication.

**Results:** For this present study, 64 patients were recruited in which the initial exams have already been performed.

**Conclusion:** Some previous studies have indicated that patients with advanced glaucoma have sleep disorders. Probably the use of this medication can improve the sleep pattern in these patients.

**Keywords:** Glaucoma, Sleep Disorders, Circadian Rhythm, Melatonin, Actigraphy



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**Advisor: Carolina Pelegrini Barbosa Gracitelli**

**CEP Number: 0140/2022**

**5. ABSTRACT (REQUIRED):**

**Title:** The use of a new wireless type IV polysomnography to evaluate the association between obstructive sleep apnea syndrome and glaucoma: a prospective cross-sectional study.

**Author and Co-authors:** Guilherme Barreto de Oliveira Ribeiro Geraldo Lorenzi-Filho Diego Munduruca Domingues Sergio Henrique Teixeira Tiago dos Santos Prata Augusto Paranhos Jr. Carolina Pelegrini Barbosa Gracitelli

**Purpose:** This is a prospective, cross-sectional study, in which 54 glaucoma patients were enrolled until now. It included only primary open-angle glaucoma and normal tension glaucoma cases. All patients performed a complete ophthalmological exam. It was used a spectral domain optical coherence tomography for the measure of retinal nerve fiber layer (RNFL), ganglion cell layer (GCL) morphological and vascular parameters. All patients performed Biologix and all patients also had the OSAS risk questionnaires and NEI-VFQ-25 questionnaire filled.

**Methods:** Our study found an association between average both eyes' MD and RNFL average thickness, and besides between average peripapillary vessel perfusion density and OSAS risk questionnaires. It was also found an association between both eyes MD and quality of life. Despite these results, it is necessary a greater number of patients to better evaluate the association between OSAS and structural, functional, and vascular optic disc nerve parameters.

**Results:** The mean age was  $60.53 \pm 8.42$  years, and 61.11% was female. The mean body mass index was  $26.92 \pm 4,00$ . The average mean deviation (MD) of the right and left eyes was  $-6.07 \pm 7.74$  dB and  $-7.31 \pm 7.75$ , respectively. There was a significant association between both eyes' peripapillary superior vessel perfusion density and Pittsburg questionnaire ( $p = 0.014$  and  $p = 0.008$ ). The left eye's peripapillary superior vessel perfusion density also showed a significant association with NoSAS questionnaire ( $p = 0.037$ ). It was also found a significant association between both eyes' MD with NEI VFQ-25 ( $p = 0.015$  and  $p = 0.012$ ), and with the average RNFL ( $p < 0.001$  and  $p < 0.001$ ). There was also a significant association between left eyes' MD and the average GCC with the STOP Bang questionnaire ( $p = 0.022$  and  $0.001$ ).

**Conclusion:** Our study found an association between average both eyes' MD and RNFL average thickness, and besides between average peripapillary vessel perfusion density and OSAS risk questionnaires. It was also found an association between both eyes MD and quality of life. Despite these results, it is necessary a greater number of patients to better evaluate the association between OSAS and structural, functional, and vascular optic disc nerve parameters.

**Keywords:** Glaucoma; Obstructive Sleep Apnea; Polysomnography; OCT;

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**Advisor: Carolina Pelegrini Barbosa Gracitelli**

**CEP Number: 04261-282**

**5. ABSTRACT (REQUIRED):**

**Title:** Triplenex (triple fixed combination) Use Evaluation In Patients With Glaucoma: Randomized Clinical Trial

**Author and Co-authors:** Lilian Machado, MD, Mariana Kawamuro, MD, Luis F Nakayama, MD, Sergio H. Teixeira, MD, PhD, Tiago dos Santos Prata, MD, PhD, Augusto Paranhos Jr., MD, PhD, Carolina Pelegrini Barbosa Gracitelli, MD, PhD

**Purpose:** This project purpose is to evaluate the effectiveness, ocular surface quality, medication adherence and quality of life in 37 glaucoma patients in use of three separate drugs (Bimatoprost 0.3%, Timolol Maleate 0.5% and Brimonidine Tartrate 0.2%) comparing with triple combination, Triplenex.

**Methods:** In this clinical trial approved by the Unifesp Etical and Research Comitte, volunteer glaucoma patients will be recruited from Unifesp Glaucoma Sector and VerMais Glaucoma Sector. They will be randomly divided em two groups,Group I is going to be treated with Triplenex (1 drop twice a day) and Grupo II with Brimonidine Tartarate (1 drop twice a day), Timolol Maleate (1 drop twice a day) and Bimatoprost (1 drop at night). At baseline visit a complete ophthalmolgical exam will be performed along with three questionnaires (Ocular Surface Disease Index,Glaucoma Treatment Compliance Assessment Tool and National Eye Institute Visual Function Questionnaire),retinography, visual field, optic nerve OCT in all patients. This procedure will be repeated at baseline and within 4, 8, 12 weeks.

**Results:** Mean age, visual acuity, mean deviation and intraocular pressure (IOP) were similar between Group I and Group II at baseline visit (63.82 $\pm$ 13.50 years,-9.32 $\pm$ 8.37 dB, 15.59 $\pm$ 4.70 and 16.86 $\pm$ 6.02 mmHg ).Ocular Surface questionnaires, quantitative ocular surface exam and QoL questionnaires showed no difference between groups.There was significant difference between washout IOP visit and third visit using the randomized eyedrops (25.8 $\pm$ 7.9mmHg, 15.2 $\pm$ 1.8mmHg, p=0.001)

**Conclusion:** Patients with glaucoma using separate drugs (Bimatoprost 0.3%, Timolol Maleate 0.5% and Brimonidine Tartrate 0.2%) comparing with triple combination, Triplenex had similar responses in IOP control,ocular surface index, QoL and in 12 months of evaluation. Both groups had significant IOP reduce comparing the washout visit and 2 months eyedrops use. Although an extense longitudinal evaluation, an increasing number of glaucoma patients may be required to more significant disclosures.

**Keywords:** Glaucoma, QoL, Clinical Trial,Ocular Surface

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Purpose  
Methods  
Results,  
Conclusion  
Keywords

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**90cm x 120cm**

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

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**Advisor: Carolina Pelegrini Barbosa Gracitelli**

**CEP Number: 11.540.089**

**5. ABSTRACT (REQUIRED):**

**Title:** Correlation of Eye Tracker reading Patterns and Functional and Structural Exams of Glaucoma Patients

**Author and Co-authors:** Ikeda MC, Nakamura VLP, Bando AH, Hamada KU, Messias AMV, Teixeira SH, Prata TS, Paranhos A, Gracitelli CPB

**Purpose:** To correlate glaucoma patients' reading performance patterns (through reading speed, saccades and fixations) and corresponding visual field and optical coherence tomography (OCT) defects.

**Methods:** 57 glaucoma patients were enrolled in these study. Demographic, systemic and ophthalmologic information was obtained. All patients had at least 0.5 logMAR best corrected visual acuity on the left eye. Eye tracker data was extracted using ISCAN. Visual field (VF) data and classification was obtained through Humphrey automated 24-2 and OCT data through Cirrus. Participants read 5 MNRead translated and validated in Portuguese slides.

**Results:** Perimetric patients had similar reading speed in the control slides (5 slides) compared to pre-perimetric patients ( $p > 0.05$  in 5/5 slides), although they showed more number of saccades ( $p$

**Conclusion:** Patients with central defects in the VF and localized defects in OCT had more difficulty reading compared to the other patients. Pre perimetric patients had same reading speed than perimetric patients, even though they make less number of saccades and fixations.

**Keywords:** Glaucoma; Reading; Eye Tracker; Visual Field; OCT

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**Advisor: Ivan Maynard Tavares**

**CEP Number: 1030/2022**

**5. ABSTRACT (REQUIRED):**

**Title:** Efficacy and safety of continuous and micropulse transscleral cyclophotocoagulation in the treatment of refractory glaucoma: A randomized clinical trial.

**Author and Co-authors:** Diogo Fajardo Correia Landim, Roberto Murad Vessani, Luiz Alberto Soares de Melo Junior, Ivan Maynard Tavares

**Purpose:** To compare the efficacy and safety of transscleral cyclophotocoagulation (CPC) with continuous diode laser and micropulse diode laser in the treatment of refractory glaucoma.

**Methods:** Randomized clinical trial. Fifty patients diagnosed with refractory glaucoma and indicated for CPC by the attending physician will be randomly selected to receive transscleral CPC with continuous diode laser (control group  $n = 25$  eyes of 25 patients) or micropulse laser (study group  $n = 25$  eyes of 25 patients). Patients will be followed for 12 months through scheduled visits. The primary outcome is intraocular pressure, and secondary outcomes include pain control, best corrected visual acuity, number of anti-glaucoma medications, and success rate.

**Results:** Preliminary results from 25 patients with a minimum follow-up of 30 days, 13 patients in the continuous mode CPC group and 12 in the micropulse mode CPC group, show a mean reduction in intraocular pressure of 49.29% and 38.75%, and a reduction in anti-glaucoma eye drops of 1.63 and 1.00, respectively. The success rate, considering an IOP between 5 and 21 mmHg and a reduction  $>20\%$  from baseline IOP, is 61.6% in the continuous mode CPC group and 36.37% in the micropulse mode CPC group.

**Conclusion:** So far, transscleral CPC with continuous diode laser has been more effective in reducing intraocular pressure, decreasing the number of eye drops, and achieving a higher success rate compared to the micropulse diode laser in the treatment of refractory glaucoma, although without statistical significance.

**Keywords:** Cyclophotocoagulation; Glaucoma; Micropulse; Laser

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**Advisor: Ivan Maynard Tavares**

**CEP Number: 10302-022**

**5. ABSTRACT (REQUIRED):**

**Title:** The Effect of Blood Pressure on Rates of Progression in Focal Ischemic versus Generalized Cup Enlargement Glaucoma Phenotypes

**Author and Co-authors:** Marcus Guerreiro-Filho, MD, Alessandro A. Jammal, MD PhD, Rohit Muralidhar, Rafael Scherer, MD PhD, Luiz F. Beniz, MD, Douglas R. da Costa, MD, Ivan M. Tavares, MD PhD, Felipe A. Medeiros, MD PhD

**Purpose:** To investigate the impact of blood pressure (BP) on rates of retinal nerve fiber layer (RNFL) thinning in glaucomatous eyes with focal ischemic (FI) versus generalized enlargement (GE) optic disc phenotypes.

**Methods:** The study included 122 eyes from 101 patients diagnosed with primary open-angle glaucoma. Eyes were classified as FI (n=31, 25%) or GE (n=91, 75%) based on masked grading of stereophotographs at baseline. Subjects underwent comprehensive ophthalmic examinations, including intraocular pressure (IOP) measurement and spectral-domain optical coherence tomography (SD-OCT) scans, every 6 months during follow-up. Brachial artery BP was measured concurrently, and mean arterial pressure (MAP), systolic arterial pressure (SAP), and diastolic arterial pressure (DAP) were calculated. Rates of global RNFL thickness change over time were assessed using linear mixed models, evaluating the impact of BP parameters in each optic disc phenotype, adjusting for IOP and other confounders. Interaction terms were used to test for differences in the effects of BP and IOP between the FI and GE phenotypes.

**Results:** In the adjusted FI group models, each 10-mmHg decrease in MAP, SAP, and DAP was associated with  $-0.397 \hat{\mu}\text{m}/\text{year}$  ( $p=0.006$ ),  $-0.211 \hat{\mu}\text{m}/\text{year}$  ( $p=0.029$ ), and  $-0.471 \hat{\mu}\text{m}/\text{year}$  ( $p=0.005$ ) faster RNFL thinning, respectively. In contrast, BP parameters were not significantly associated with RNFL loss in the GE group. In the multivariable model with interaction terms, the interaction between DAP and phenotype was statistically significant ( $p=0.019$ ), indicating the FI phenotype exhibited greater sensitivity to lower diastolic pressure compared to GE eyes. In contrast, interaction terms between IOP and optic disc phenotype were not significant in any of the models, suggesting a similar effect of IOP in both phenotypes.

**Conclusion:** Lower systemic BP levels were associated with faster RNFL thinning in the FI optic disc phenotype, but not in the GE phenotype. These findings highlight the importance of considering both IOP and systemic BP when managing patients with the FI optic disc phenotype.

**Keywords:** glaucoma, blood pressure, optic disc phenotype, intraocular pressure

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**Advisor: Tiago Santos Prata**

**CEP Number: 1142/2021**

**5. ABSTRACT (REQUIRED):**

**Title:** Correlation between ocular axial length and corneal biomechanics parameters, using the dynamic Scheimpflug analysis system in patients with primary open angle glaucoma

**Author and Co-authors:** Felipe Taveira Daher, Tiago dos Santos Prata

**Purpose:** Evaluate the correlations between de ocular axial length and the corneal biomechanical parameters in eyes with primary open angle glaucoma, using the system Corvis-ST

**Methods:** Observational transversal study in eyes with primary open angle glaucoma, under topical drug treatment. The eyes enrolled in this study were submitted to: biomechanical analysis with Corvis-ST, biometry, Goldmann tonometry (GAT) and corneal pachymetry. The biomechanical parameters analyzed were de Stiffness Parameter at the First Applanation (SP-A1), Stress-strain Index (SSI) e Biomechanically-corrected IOP (BIOP). The correlation between the biomechanical parameters and the ocular axial length was accessed using multivariate models adjusted for de intraocular pressure (IOP) and age.

**Results:** Sixty three eyes were enrolled. We found negative correlation between the biometrical values and the SSI. When we the biometrical values were separated in different groups (Group 1: smaller than 24,00 mm, Group 2: larger than 24,00 mm), we found statistically significant difference between the groups on the SSI mean and a marginal statistical difference on the BIOP. The higher mean of the BIOP was on the group with larger axial length. There was no statistical significant difference between the groups on the means of the SP-A1, GAT, number of medications and values of the Mean Deviation of the Visual Field. Evaluating the difference between the means of the BIOP and GAT, we found a marginal statistical difference between the groups (-0,39 and 1,76 mmHg, respectively), so the GAT trended to underestimate the IOP in larger eyes. There was no statistical correlation between the biometrical values and the biomechanical parameter SP-A1.

**Conclusion:** The negative correlation between the biometrical values and the SSI, indicates that larger eyes trended to have less stiffness in our study. The fact that BIOP was higher in the eyes with greater axial length indicates a trend to the GAT underestimate the IOP in larger eyes. The non-statistical difference between the groups on the parameters corneal pachymetry, GAT and, mainly, number of topical medications (which could have an influence on the ocular biomechanics) indicates that the groups were homogeneous.

**Keywords:** Glaucoma, Corvis, Corneal Biomechanics, Miopia

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**Advisor: Tiago Santos Prata**

**CEP Number: 00732-020**

**5. ABSTRACT (REQUIRED):**

**Title:** Reproducibility of Automated Optic Nerve Head Hemoglobin Measurements in Patients with Glaucoma

**Author and Co-authors:** Rocha, JAG; Lemos, MBC; Souza, VP; Paranhos Jr., A; Teixeira, SH; Gracitelli, CPB; Prata, TS.

**Purpose:** To evaluate the reproducibility of automated optic nerve head hemoglobin measurements (ONH Hb) in patients with glaucoma, through indices provided by the Laguna ONhE software.

**Methods:** Treated glaucoma patients with at least 5 medical visits, were included in this historical cohort. At each medical visit, they underwent a set of color retinographies (CR), as part of the optical coherence tomography (Triton) protocol, performed by the same examiner. All CR were analyzed by the Laguna ONhE Software, to estimate ONH Hb based on colorimetric analyses. Its main index, for diagnosing glaucoma, is the Glaucoma Discriminant Function (GDF). The latest index, Globin Individual Pointer (GIP), may be useful in longitudinal evaluation. For both indices, reproducibility was assessed using the standard deviation (SD) and the coefficient of variation (CV). The comparison between GIP and GDF was also carried out. Regression Lines and Scatter Plots were constructed to identify which factors could influence the variability of the measurements.

**Results:** Eighty-two medical visits from ten patients (20 eyes) were assessed. The mean age of the patients was  $77.1 \pm 9.0$  years and 6 of them were male. A total of 1399 CR were carried out, 95 (6,8%) could not be analyzed by the software, resulting in an average of 7.9 CR/per eye/per visit. The reproducibility of the indices was evaluated in 161 sets of CR. There was no statistical difference in relation to SD between GIP and GDF (median 7.24; Interquartile Range-IR:5.40-9.94 and 8.46 IR:5.12-11.31, respectively,  $p=0.13$ ). Both indices presented a fair CV, however the values were significantly lower in relation to GIP (median 0.16; IR:0.10-0.32) compared to GDF (median 0.21; IR:0.11-0.32),  $p=0.02$ . Vertical cup-to-disc-ratio (CDR) was significantly associated with measurements variability ( $R^2=0.29$ ,  $p=0.02$ ). Other factors, including age, intraocular pressure, disc area and average retinal nerve fiber layer were not significant ( $p>0.13$ ).

**Conclusion:** The ONH Hb, through indices provided by the Laguna software, demonstrated good reproducibility, especially in relation to GIP. The variability seemed to be smaller with increasing CDR. These findings suggest that the software could be useful in the longitudinal monitoring of glaucoma patients.

**Keywords:** Glaucoma, optic nerve head, hemoglobin

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

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**Advisor: Carolina Pelegrini Barbosa Gracitelli**

**CEP Number: 05588-000**

**5. ABSTRACT (REQUIRED):**

**Title:** Association of Contrast, Font Size, and Spacing between lines for Improving Reading Speed in Glaucoma Patients

**Author and Co-authors:** Lucca Sokabe, Andr  Hiroshi Bando, Koiti Uchida Hamada, Mariana Chiba Ikeda, Tiago S. Prata, Augusto Paranhos Jr., Carolina Pelegrini Barbosa Gracitelli

**Purpose:** Glaucoma is a progressive optic neuropathy and the leading cause of irreversible blindness worldwide, leading to various impairments in daily activities, such as reading performance. However, the number of studies exploring the relationship between glaucoma and reading is still limited. The purpose of this study is to evaluate the reading speed of glaucoma patients using the MNREAD-P software, through the combination of interventions involving contrast, font size, and line spacing.

**Methods:** A prospective cross-sectional study including 17 glaucoma patients, volunteers, from the Glaucoma Clinic of Escola Paulista de Medicina - Federal University of S o Paulo. Inclusion criteria: age over 18 years; at least a primary education level; primary open-angle glaucoma; and visual acuity of at least 0.5 logarithm of the Minimum Angle of Resolution in both eyes. Patients underwent the collection of demographic data and clinical characteristics after signed the Informed Consent Form approved by the Ethics and Research Committee under the number 6658273. Subsequently, the MNREAD-P was performed, and reading speed was measured for each combination of interventions. In the first session, font size and line spacing were increased. In the second session, contrast and font size were increased. In the final session, contrast and line spacing were increased.

**Results:** A significant improvement in reading performance was observed with the increase in contrast combined with a larger font size (from 85.88 plus or minus 47.19 letters per minute to 129.06 plus or minus 38.94 letters per minute, p-value less than 0.001) across all combinations. Both in the association of font size and spacing, as well as in the combination of contrast and spacing, there was either a worsening or no change in reading speed (results with p-value greater than 0.05).

**Conclusion:** Reading performance in glaucoma patients improved with the combination of increased font size and contrast. A decrease or no change in reading speed was observed with increased line spacing, even when font size was increased. Similarly, the combination of contrast and line spacing either worsened or had no significant effect on reading performance.

**Keywords:** Glaucoma, Reading, Performance, Contrast, Font, Spacing



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**Advisor: Tammy Hentona Osaki**

**CEP Number: 04117-091**

**5. ABSTRACT (REQUIRED):**

**Title:** Comparison between oxymetazoline 0,1% and phenylephrine 2,5% eyedrops on eyelid position in patients with aponeurotic ptosis

**Author and Co-authors:** Lilian Emi Ohkawara, Julia Harumi Iwakura, Gustavo Gameiro, Midori Osaki, Tammy Osaki

**Purpose:** The use of pharmacological agents that stimulate the Muller muscle may be an alternative therapeutic option to surgical correction. The objective of this study was to compare the effect of oxymetazoline 0.1% and phenylephrine 2.5% on the position of the upper eyelid in patients with aponeurotic ptosis.

**Methods:** Patients over 18 years old with a diagnosis of aponeurotic palpebral ptosis were included. The patients were photographed in a standardized manner, and the palpebral fissure (FP) and reflex margin distance 1 (MRD1) measurements were obtained using public domain software (Image J). The patients were evaluated before, 15, and 120 minutes after instillation of compounded eye drops containing 2.5% phenylephrine and 0.1% oxymetazoline.

**Results:** Twenty-six eyes of 13 patients (11 women and 2 men) were analyzed. After instillation of oxymetazoline, a greater magnitude of increase in MRD1 ( $p=0.008$ ) and FP ( $p=0.005$ ) was observed in relation to phenylephrine. In addition, a better response rate was observed to oxymetazoline (77%) than to phenylephrine (54%). At 120 minutes, loss of response to phenylephrine was observed in the eyes that had a positive response. The eyes that had a positive response to oxymetazoline maintained the response after 120 minutes. Patients reported improvement in ptosis for approximately 6 hours after instillation of oxymetazoline. Mydriasis was observed only after instillation of phenylephrine.

**Conclusion:** Phenylephrine has an effect 5 to 30 minutes after instillation, with a maximum duration of 30 minutes to 1 hour. Studies show that the effect of 0.1% oxymetazoline occurs after 5 to 15 minutes with an average duration of 6 to 8 hours. In our study, oxymetazoline resulted in a more pronounced improvement in eyelid ptosis and showed a higher response rate than phenylephrine, in addition to lasting longer without causing mydriasis, suggesting that even patients with a negative or poor response to the phenylephrine test could benefit from its use for temporary treatment of eyelid ptosis. We did not find any previous studies in the literature reporting a greater magnitude of improvement in eyelid ptosis and a higher response rate to oxymetazoline, when compared to the phenylephrine test.

**Keywords:** ptosis, oxymetazoline, phenylephrine

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Title  
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Co-authors (maximum 6)  
Purpose  
Methods  
Results,  
Conclusion  
Keywords

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**90cm x 120cm**

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

**Name: Gustavo David Ludwig - PGO**  
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**Advisor: Tammy Hentona Osaki**

**CEP Number: 36524-620**

**5. ABSTRACT (REQUIRED):**

**Title:** Is It Worth Using Botulinum Toxin Injections for the Management of Mild to Moderate Blepharoptosis?

**Author and Co-authors:** Gustavo David Ludwig, MD; Midori Hentona Osaki, MD, PhD; Gustavo Rosa Gameiro, MD; and Tammy Hentona Osaki, MD, PhD

**Purpose:** The authors sought to objectively examine the effects of botulinum neurotoxin A (BoNT-A) injection into the orbicularis oculi muscle in the management of blepharoptosis.

**Methods:** In this prospective study, 8 patients with mild to moderate ptosis received application of BoNT-A in the pretarsal orbicularis oculi muscle. Standardized photographs were obtained at baseline and 2, 4, and 24 weeks. Digital image analysis software (Image J) was employed for objective analysis. Primary outcomes were the margin reflex distance-1 and qualitative changes on a 4-point scale.

**Results:** A significant increase in the margin reflex distance-1 on the treated side (baseline:  $2.00 \pm 1.13$  mm; week 2:  $2.52 \pm 1.13$  mm;  $P = 0.003$ ) and a significant reduction (baseline:  $3.23 \pm 0.92$  mm, week 2:  $3.07 \pm 0.96$ ;  $P = 0.0268$ ) on the contralateral eyelid were observed at week 2. After 24 weeks, the effect of BoNT-A diminished, and no significant difference from baseline was observed in either eyelid. Subjectively, 87.5% of patients reported improvement in their eyelid ptosis.

**Conclusion:** Botulinum toxin injection in the pretarsal orbicularis oculi muscle can be an option to temporarily manage ptosis in patients who do not desire to undergo a surgical procedure. This alternative treatment can also be employed to manage temporary ptosis induced by botulinum toxin diffusion to the levator aponeurosis.

**Keywords:** blepharoptosis; botulinum toxin;

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**(EP) EPIDEMIOLOGY**

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

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**Advisor: Carolina Pelegrini Barbosa Gracitelli**

**CEP Number: 68195-000**

**5. ABSTRACT (REQUIRED):**

**Title:** Online training tool in pediatric ophthalmology care: a promissory way to fill the gap

**Author and Co-authors:** Erika M. Pereira, MD, J lia D. Rossetto, MD, PhD, Luisa M. Hopker, MD, PhD, Barbara Venturin, MD, and Carolina P. B. Gracitelli, MD, PhD

**Purpose:** To investigate why comprehensive, non-pediatric ophthalmologists do not routinely manage pediatric patients in Brazil.

**Methods:** An online 10-question survey was sent to 330 ophthalmologists of the Brazilian Ophthalmology Council (Conselho Brasileiro de Oftalmologia) via WhatsApp between September and November 2022. The questions assessed respondents' clinical profiles, reasons for not managing pediatric patients, and whether an online training tool for pediatric ophthalmology care would increase their willingness to treat children.

**Results:** A total of 95% (315/330) of the surveyed ophthalmologists completed the survey. Most respondents (229/312; 73.4%) had been in practice for more than 10 years. Approximately one-third of them (101/315, 32.1%; 95% CI 27.1%–37.1%) did not treat children under 5 years of age. The majority of those (78/101, 77.2%; 95% CI, 68.4%–84.6%) cited the main reasons for not treating children as either the lack of pediatric-specific training or the additional time involved in pediatric consultations. Regardless of currently treating children, 87.7% (263/300, 95% CI 83.6%–91.0%) of the respondents felt they would benefit from an online training tool in pediatric ophthalmology. Among the participants who already treat children, 92% also favored the digital tool.

**Conclusion:** Lack of pediatric eye care is partly related to the absence of pediatric-specific training. A remote digital tool for clinical support and training could increase general ophthalmologists' willingness to treat pediatric patients and expand access to pediatric eye care.

**Keywords:** PEDIATRIC OPHTHALMOLOGY; ONLINE TRAINING TOOL; CHILDREN; EYE CARE

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

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**Advisor: Adriana Berezovsky**

**CEP Number: 0706/2022**

**5. ABSTRACT (REQUIRED):**

**Title:** Impact of assistive technology adaptation on reading performance in low vision

**Author and Co-authors:** Paula Baptista Eliseo da Silva, Nivea Nunes Ferraz, Marcela Cypel, Adriana Berezovsky Affiliation: Department of Ophthalmology and Visual Sciences, Paulista School of Medicine, Federal University of Sao Paulo - UNIFESP

**Purpose:** This study aimed to assess the reading performance of individuals with low vision using assistive technology devices (ATDs).

**Methods:** The study included patients who had undergone reading visual rehabilitation with either optical or digital ATDs. The inclusion criteria were as follows: best-corrected visual acuity (BCVA) between 0.5 and 1.6 logMAR in the better-seeing eye, age 18 or older, and previous reading habits. All subjects were evaluated at the Outpatient Low Vision Service between February 2023 and August 2024. The MNREAD-P chart was used to assess the participants' reading performance, comparing the results of reading acuity (RA) and reading speed (RS) with and without the use of the ATDs. RA (logMAR) was determined by the smallest sentence read without significant errors and RS (words per minute, wpm) was measured for the sentence corresponding to the RA. Additionally, reading results with optical and digital devices were compared. Statistical significance was set at p less than 0.05.

**Results:** Twenty-four participants were recruited (17 females), with a mean age of 62.5 years (SD 17.0; 26 to 92 years) and a mean BCVA of 0.80 logMAR (SD 0.27; 0.50 to 1.64 logMAR). Out of the ATDs adapted, 18 were optical with a mean magnification of 7.3 dioptres (SD 5.1), and 6 were digital (smartphone magnifier app). The mean RA and RS without the ATD were 0.77 logMAR (SD 0.30) and 27.5 wpm (SD 26.3), changing for 0.37 logMAR (SD 0.18; p less than .001) and 26.4 wpm (SD 28.1; p equal to .569) with ATD. Digital devices resulted in greater RA (0.24 logMAR, SD 0.20; mean improvement of 6 lines) compared to optical devices (0.40 logMAR, SD 0.18; mean improvement of 3 lines), with mean RS of 36.0 wpm (SD 33.8) for digital and 23.2 wpm (SD 26.2) for optical, but no statistical significance for both parameters.

**Conclusion:** The use of ATDs improved reading acuity but did not significantly increase reading speed. The results suggested a trend toward greater gains in reading acuity with digital devices in this small group of individuals with low vision. It is essential to increase the sample size to confirm these findings.  
Financial support: CAPES

**Keywords:** low vision, rehabilitation, reading

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**Advisor: Mauro Silveira de Queiroz Campos**

**CEP Number: 044740-41**

**5. ABSTRACT (REQUIRED):**

**Title:** EVALUATION OF THE NET PROMOTER SCORE (NPS) IN TELECONSULTATIONS AT AN EARLY VISUAL STIMULATION (EVS) SERVICE OF INFANTILE LOW VISION

**Author and Co-authors:** Ana Carolina Carneiro, Arthur Gustavo Fernandes, Mariana A. Davi, Marcia C. Lopes, Marcela Santos, Carolina Gracitelli, Celia Regina Nakanami and Mauro Campos

**Purpose:** To evaluate the association between the net promoter score (NPS) and sociodemographic indicators from patient's caregivers attended in face-to-face and in teleconsultations EVS service.

**Methods:** Data of EVS appointments, either in-person and telemedicine consultation, collected from June 2020 until June 2021 were analyzed. A socio-demographic questionnaire was presented to the patient's caregivers during consultations and the perception of satisfaction was assessed by using the NPS within 48h of consultation. Results of the first visit of face-to-face and telemedicine groups were evaluated by uni and multivariate linear regressions adjusted for sociodemographic variables.

**Results:** The consultations belonged to 183 patients with mean age 3.3 years old ( $\pm 2.7$ ), 98 male (53.6%) and 100 white (54.6%). Regarding the sociodemographic questionnaire, 87.6% reported living outside São Paulo state, average travel time to the service was  $3.0 \pm 5.3$  hours and travel cost was  $R\$ 62.9 \pm 212.8$ . Family income (R\$) was reported as  $<1500$  in 48.4% of the responses and between 1500 and 3000 in 28.7% of them. The NPS was performed in 337 consultations, 189 of them face-to-face and 148 teleconsultation, response rates were 73.54% and 80.40% respectively. The mean NPS raw score (4 to 10) for the first face-to-face or teleconsultations were  $9.61 \pm 0.90$  and  $9.81 \pm 0.78$ . The univariate analyses indicate a difference statistically significant with higher scores for teleconsultations in comparison to face-to-face consultations ( $p=0.038$ ). However, when performing multivariate analyses to investigate factors associated with the NPS raw score for first consultation we found no statistically significant effect of type of consultation, caregiver, travel time or cost in the event of no face-to-face appointments ( $p>0.05$ ). Income has shown to be significantly associated with NPS so that individuals with higher income have given lower NPS scores when compared to those with lower income (Coef. -0.32; 95%CI: -0.59 a -0.04;  $p=0.024$ ).

**Conclusion:** Telemedicine proved to be a viable tool for health care in the population studied with a high NPS and family income has shown to be associated with NPS score.

**Keywords:** NPS, low vision, teleconsultation

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Methods  
Results,  
Conclusion  
Keywords

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

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

**Name: Marcia Ferreira Chaves - Fellow**  
**e-mail: [marcia-cf@hotmail.com](mailto:marcia-cf@hotmail.com)**

**CEP Number: 04026-001**

**5. ABSTRACT (REQUIRED):**

**Title:** USE OF ADVANCED RESOURCES IN MEDIPHACOS KTA LENS: CASE SERIES

**Author and Co-authors:** MÃircia Chaves Ferreira

**Purpose:** Developed and lauched in 2024 by Mediphacos, the Mediphacos KTA (Keratoconus Technology Algorithm) gas-permeable corneal contact lens emerges as a new alternative for visual rehabilitation in patients with keratoconus. The lens features three advanced resources: front toricity, toric peripheral design, and localized asymmetry. This case series aims to demonstrate the applicability of this new lens and the use of its resources.

**Methods:** Conducted through a retrospective study analyzing medical records of patients fitted with the Mediphacos KTA gas-permeable contact lens at Hospital SÃ£o Paulo, between March and September 2024.

**Results:** An analysis was performed on 22 patients fitted with the KTA gas-permeable contact lens, including 12 (54.54 percent) females and 10 (45.45 percent) males. In 11 (50 percent) patients, lenses were requested for both eyes, totaling 33 lenses. Of these, 32 (96.96 percent) achieved a visual acuity of 0.5 or better. Edge adjustments were necessary for 12 (36.36 percent) lenses. Adjustments using advanced resources were made for 25 (75.75 percent) lenses, with 0 for front toricity, 17 (68 percent) for toric peripheral design, and 8 (32 percent) for localized asymmetry.

**Conclusion:** Based on the results obtained in this series, it is possible to infer the applicability of the proposed new lens in the market, showing improvement in visual acuity alongside good adaptation and the use of new resources offered for the benefit of patients, even in cases of keratoconus with high keratometric measurements.

**Keywords:** Mediphacos KTA; lens fitting; advanced features; keratoconus

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

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**CEP Number: 45987-140**

**5. ABSTRACT (REQUIRED):**

**Title:** Visual rehabilitation with contact lenses after penetrating keratoplasty: a series of cases

**Author and Co-authors:** Nathalia Afonso Galão

**Purpose:** This study presents a series of cases aimed at demonstrating the applicability of gas-permeable rigid contact lenses (GPRCL) in visual rehabilitation following penetrating keratoplasty. It also explores various alternatives for these often challenging fittings.

**Methods:** A total of 05 cases (6 eyes) were selected from patients treated between April and October 2024 at the contact lens and refraction outpatient clinic of Hospital universit rio da UNIFESP. All patients had previously undergone penetrating keratoplasty and exhibited low visual acuity post-procedure, with no improvement in refraction. The cases were fully depersonalized.

**Results:** Discussion: It is widely acknowledged that GPRCLs are excellent alternatives for visual rehabilitation in various conditions such as corneal ectasias, scarring, and high astigmatism induced by procedures like penetrating keratoplasty. The significant challenges in these fittings, aside from corneal irregularity and tear film instability, which complicate the identification of a suitable standard providing stability and comfort, also include the consideration of oxygen transmissibility for corneas that are already at greater risk of complications than usual.

**Conclusion:** This work presents different approaches for post-transplant fittings, and the findings suggest that despite the challenges these cases may present, a thorough and individualized assessment, along with knowledge of the various methods discussed, enables the practitioner to provide the best possible fit. It is essential to weigh the risks and benefits of each method and to consider the ophthalmologist's experience with each option for optimal decision-making.

**Keywords:** gas-permeable rigid contact lenses, visual rehabilitation after penetrating keratoplasty, rigid contact lenses fitting.

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**1 FIRST (PRESENTING) AUTHOR (REQUIRED):**

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**Advisor: Caio Vinicius Regatieri**

**CEP Number: 22280-030**

**5. ABSTRACT (REQUIRED):**

**Title:** Enhancement of Optical Coherence Tomography Images Using Adversarial Neural Networks: Impacts on Ophthalmic Practice

**Author and Co-authors:** Fernando Henrique Flores Teixeira; Alexandre Rosa; Caio Vinicius Saito Regatieri.

**Purpose:** This study evaluates the effectiveness of a generative adversarial network (GAN) in enhancing the resolution and clarity of optical coherence tomography (OCT) images of retinal structures, focusing on ophthalmologists' perceptions regarding the utility of AI in clinical practice.

**Methods:** Eight de-identified OCT images were obtained from the Ophthalmology department at UNIFESP, representing various ocular pathologies. A GAN was trained to enhance image resolution and clarity using techniques such as real-enhanced super-resolution. A questionnaire was administered to 147 ophthalmologists (retinologists and non-retinologists), assessing their views on AI's impact on image clarity, diagnostic facilitation, biomarker identification, and prognostic assessment. Statistical analyses, including chi-squared tests and binomial logistic regression, were conducted to explore associations between professional background and perceptions of AI effectiveness.

**Results:** A majority of ophthalmologists (69.4%) reported that AI-enhanced images improved the clarity of retinal layers, particularly external structures. However, opinions diverged regarding the clinical utility of these images. While 61.9% agreed that AI facilitated biomarker identification, 60.5% did not find it added relevant information for case management. Notably, 78.9% acknowledged that AI significantly highlighted biomarkers.

**Conclusion:** AI-enhanced OCT images, especially those processed with GANs, can markedly improve the clarity and detail of retinal images, potentially aiding diagnostics. Despite positive feedback, the variability in perceived clinical utility indicates that AI integration should be approached cautiously. Training and experience in AI tools are essential, and further research with larger, diverse samples is needed to better understand AI's impact on clinical practice and its cost-benefit ratio. Future studies should also compare the efficacy of different AI algorithms in enhancing diagnostic accuracy and patient outcomes. The study was approved by the Research Ethics Committee of the Federal University of S o Paulo (UNIFESP), with reference number (CAAE) 76647223.2.0000.5505. The author(s) received no financial support for the authorship and/or publication of this work.

**Keywords:** AI; OCT; Artificial Intelligence; Retina.



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**Advisor: Caio Vinicius Regatieri**

**CEP Number: 07902-021**

### 5. ABSTRACT (REQUIRED):

**Title:** Automated machine learning model for fundus image classification by health-care professionals with no coding experience

**Author and Co-authors:** Lucas Zago Ribeiro, Luis Filipe Nakayama, Fernando Korn Malerbi, Caio Vinicius Saito Regatieri

**Purpose:** To assess the feasibility of code-free deep learning (CFDL) platforms in the prediction of binary outcomes from fundus images in ophthalmology, evaluating two distinct online-based platforms (Google Vertex and Amazon Rekognition), and two distinct datasets.

**Methods:** Two publicly available datasets, Messidor-2 and BRSET, were utilized for model development. The Messidor-2 consists of fundus photographs from diabetic patients and the BRSET is a multi-label dataset. The CFDL platforms were used to create deep learning models, with no preprocessing of the images, by a single ophthalmologist without coding expertise. The performance metrics employed to evaluate the models were F1 score, area under curve (AUC), precision and recall.

**Results:** The performance metrics for referable diabetic retinopathy and macular edema were above 0.9 for both tasks and CDFL. The Google Vertex models demonstrated superior performance compared to the Amazon models, with the BRSET dataset achieving the highest accuracy (AUC of 0.994). Multi-classification tasks using only BRSET achieved similar overall performance between platforms, achieving AUC of 0.994 for laterality, 0.942 for age grouping, 0.779 for genetic sex identification, 0.857 for optic, and 0.837 for normality with Google Vertex.

**Conclusion:** The study demonstrates the feasibility of using automated machine learning platforms for predicting binary outcomes from fundus images in ophthalmology. It highlights the high accuracy achieved by the models in some tasks and the potential of CFDL as an entry-friendly platform for ophthalmologists to familiarize themselves with machine learning concepts.

**Keywords:** retina, artificial intelligence, automl

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**5. ABSTRACT (REQUIRED):**

**Title:** Photobiomodulation efficacy in age-related macular degeneration: a systematic review and meta-analysis of randomized clinical trials

**Author and Co-authors:** Tiago N. O. Rassi, Lucas M. Barbosa, Sacha Pereira, Eduardo A. Novais, Fernando Penha, Luiz Roisman & Mauricio Maia

**Purpose:** Age-related macular degeneration (AMD) is a leading cause of vision loss. Photobiomodulation (PBM) offers a controversial approach for managing dry AMD, aiming to halt or reverse progression through mitochondrial activity modulation. However, the efficacy and clinical relevance of PBM as a potential approach for managing dry AMD remain debated.

**Methods:** We systematically searched PubMed, Embase, and Cochrane databases for randomized controlled trials (RCTs) comparing PBM versus a sham in patients with dry AMD. We performed trial sequential analysis (TSA) and minimal clinically important difference (MCID) calculations to assess statistical and clinical significance applying a random-effects model with 95% confidence intervals (CI).

**Results:** We included three RCTs comprising 247 eyes. The pooled analysis showed that PBM significantly improved BCVA (MD 1.76 letters; 95% CI: 0.04 to 3.48) and drusen volume (MD -0.12 mm<sup>3</sup>; 95% CI: -0.22 to -0.02) as compared with a sham control. However, the TSA indicated that the current sample sizes were insufficient for reliable conclusions. No significant differences were observed in GA area. The MCID analysis suggested that the statistically significant results did not translate into clinically significant benefits. In the quality assessment, all studies were deemed to have a high risk of bias.

**Conclusion:** This meta-analysis points limitations in the current evidence base for PBM in dry AMD treatment, with issues around small sample sizes. Statistically significant improvements do not translate into clinical benefits. The research underscores need for larger RCTs to validate PBM's therapeutic potential for dry AMD.

**Keywords:** Age Related Macular Degeneration, drusen, photobiomodulation

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**Advisor: Juliana Maria Ferraz Sallum**

**CEP Number: 0387/2023**

**5. ABSTRACT (REQUIRED):**

**Title:** Microperimetry results from patients who underwent gene therapy with Voretigene Neparvovec

**Author and Co-authors:** Caio Henrique Marques Texeira, Mariana Matioli da Palma, Juliana Maria Ferraz Sallum

**Purpose:** Microperimetry (MP) measures the retinal sensitivity in 25 degrees and provides detailed information about the patient's fixation. Given its importance in the assessment of the functional vision, the purpose of this work was to present pre and post microperimetry results from patients who underwent gene therapy with Voretigene Neparvovec (VN).

**Methods:** MAIA MP (Centervue, Padova, Italy) were performed as standard of care before and after gene therapy with VN in five patients (ten eyes) with pathogenic biallelic RPE65 mutations in our study group. From the exam reports, the following pre and last post gene therapy MP measurements were extracted and compared: mean sensitivity (MS, dB), fixation loss (%), fixation stability index (P1 and P2, %), Bivariate Contour Ellipse Area (BCEA 63 and BCEA 95, square degrees), the number of stimuli seen, the brightest and dimmest ones (0 to 36 dB). These data were analyzed using adequate descriptive and inferential statistics methods. The statistical significance level was considered as p-value less than 0.05.

**Results:** The overall average of the values of all eyes assessed for each measurement (i.e. MS) improved after gene therapy. Despite of this, only MS and dimmest stimulus seen values had statistically significant difference after gene therapy (p: 0.002 for both). The age (9 to 40 years old, with an average of 20.8, SD of 11.4 and median 21.0) was found to be strongly correlated to the MS improvement after gene therapy (p-value less than 0.001; rho: -0.911).

**Conclusion:** In our sample, all the microperimetry measurements had improvement after gene therapy with VN. Mean sensitivity and the dimmest stimulus seen values found to have a statistically significant difference after gene therapy. Also, it was observed that the younger the patient, the better the mean sensitivity improvement after gene therapy. This study was supported by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CNPq) Brasil (CAPES) under Grant from the post-graduation incentive (finance code 001).

**Keywords:** microperimetry; retinal sensitivity; fixation; functional outcome; voretigene neparvovec

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**5. ABSTRACT (REQUIRED):**

**Title:** Screening for Autism Spectrum Disorder in children and adolescents with Leber's congenital amaurosis

**Author and Co-authors:** Juliana Sallum Cecília Francini Cabral de Vasconcelos Marina Cruz Pellissari Luiz Renato Carreiro

**Purpose:** To investigate autism spectrum disorder (ASD) indicators in children with Leber congenital amaurosis (LCA).

**Methods:** Cross-sectional, correlational, and prospective study. Participants included patients aged 2 to 16 years with LCA confirmed by genetic testing. There were 20 individuals with ciliopathies (LCAcilio) and 26 with other gene mutations (LCA other). The instrument used for ASD screening was the Autism Behavior Checklist (ABC). Marginal descriptive analyses, non-parametric tests, and a linear regression model were conducted.

**Results:** Of the 46 participants, 6 had ASD. There was no statistically significant correlation between the different groups (LCAcilio and LCA other) ( $p=0.438$ ). There was no statistically significant correlation between age and ASD ( $p=0.308$ ). However, there was a statistically significant correlation between visual acuity and ASD ( $p=0.008$ ) and between gender and ASD ( $p=0.025$ ).

**Conclusion:** This study suggests that there is no correlation between LCAcilio, LCA other and ASD. These findings contribute new insights to the existing literature, which previously lacked robust data on the relationship between LCA and ASD. These data demonstrate that visual acuity plays a crucial role in the development of children with visual impairment as poorer visual acuity is associated with a higher incidence of ASD. Based on this study, early interventions can be designed, especially for individuals without light perception, with the aim of maximizing their developmental outcomes. Furthermore, such data indicates that any improvements in visual acuity outcomes in clinical trials become relevant for child development.

**Keywords:** Leber congenital amaurosis; autism spectrum disorder; inherited retinal dystrophies

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**Advisor: Juliana Maria Ferraz Sallum**

**CEP Number: 01224-010**

**5. ABSTRACT (REQUIRED):**

**Title:** Molecular and Clinical Characterization of CNGA3 and CNGB3 Genes in Brazilian Patients Affected with Achromatopsia

**Author and Co-authors:** Rebeca A. S. Amaral, Fabiana L. Motta, Olivia A. Zin, Mariana M. da Palma, Gabriela D. Rodrigues and Juliana M. F. Sallum.

**Purpose:** To study on CNGA3 and CNGB3 pathogenic variants related to ACHM in Brazilian patients.

**Methods:** A retrospective study of medical records from two centers specializing in inherited retinal dystrophies was performed. Forty-six Brazilian patients with clinical diagnosis of ACHM were identified. Among them, 42 patients from 38 families had conclusive genetic testing with pathogenic variants in CNGA3 and CNGB3 genes. Medical and family histories were collected, as were genetic data. The severity of degeneration shown on the OCT was graded in different stages.

**Results:** We identified 46 patients with clinical diagnosis of ACHM. Forty-two patients presented biallelic pathogenic variants in the CNGA3 and CNGB3 genes, while four patients presented biallelic pathogenic variants in the PDE6C gene. The majority of CNGA3 variants were missense, and the most prevalent CNGB3 variant was c.1148delC (p.Thr383Ilefs\*13), resulting in a frameshift and premature stop codon, which is compatible with previous publications in the literature. A novel variant c.1893T > A (p.Tyr631\*) in the CNGB3 gene is reported for the first time in this study. A great variability in morphologic findings was observed in our patients, although no consistent correlation with age and disease stage in OCT foveal morphology was found.

**Conclusion:** This study has presented a considerable cohort of patients with ACHM related to the CNGA3 and CNGB3 genes. The current development of gene therapy for ACHM requires characterization of these patients in detail in order to better understand disease evolution.

**Keywords:** achromatopsia; cone photoreceptor; CNGA3; CNGB3

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**Advisor: Mauricio Maia**

**CEP Number: 0575/2020**

**5. ABSTRACT (REQUIRED):**

**Title:** Innovative Technique to Measure the Position of Secondary Intraocular Lens Implants: A Pilot Study

**Author and Co-authors:** Denise Pardini, MD; Monica M S Matsumoto, PhD; Ana Marisa Branco, MD; André Maia, MD, PhD ? Norma Allemann, MD, PhD; Michel Farah, MD, PhD; Maurício Maia, MD, PhD

**Purpose:** Evaluate outcomes of combined pars plana vitrectomy (PPV) and 4-support intraocular lens (IOL) scleral fixation including its position over time and validate a new method for measuring its tilt and decentration.

**Methods:** This prospective pilot study analyzed outcomes of combined PPV and secondary implantation of a 4-support scleral-fixated IOL. Inclusion criteria encompassed aphakia, absence of capsular support, and the necessity for scleral fixation. The primary outcomes assessed were best corrected visual acuity (BCVA), refraction, and measurements of lens tilt and decentration. Secondary outcomes included the reproducibility of the measurements obtained and the validation of the proposed measurement method.

**Results:** The mean  $\pm$  standard deviation logarithm of the minimum angle of resolution BCVA improved from  $0.59 \pm 0.13$  preoperatively to  $0.24 \pm 0.34$  at 6 months postoperatively ( $P = 0.001$ ). Spherical equivalent went from  $10,84 \pm 1,22$  preoperatively to final  $-1,32 \pm 0,44$  (P

**Conclusion:** The employed surgical technique demonstrates favorable outcomes with the intraocular lens (IOL) maintaining long-term stability. The measurement methodology shows strong reproducibility, allowing for valid comparisons of tilt and decentration across different ocular references (SS and IPE). However, comparisons between measurements from distinct imaging technologies, such as UBM and OCT, are not applicable. A unified standard for IOL position evaluation is recommended for enhanced clinical consistency.

**Keywords:** Four-point scleral fixation  $\hat{\text{A}}\text{€}\text{ç}$  Tilt  $\hat{\text{A}}\text{€}\text{ç}$  Decentration  $\hat{\text{A}}\text{€}\text{ç}$  Pars plana vitrectomy  $\hat{\text{A}}\text{€}\text{ç}$  Secondary intraocular lens  $\hat{\text{A}}\text{€}\text{ç}$  AS-OCT  $\hat{\text{A}}\text{€}\text{ç}$  UBM.

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**5. ABSTRACT (REQUIRED):**

**Title:** Silicone oil droplets released from intravitreal injections of Aflibercept and Bevacizumab on Human Retinal Pigment Epithelium (ARPE-19) and Muller Cells (MIO-MI) cells in vitro

**Author and Co-authors:** Paula S.Fukuhara, Gustavo B.Melo, Marilyn Chwa, M.Cristina Kenney, Michel E.Farah

**Purpose:** To analyze the effects of SO droplets released from intravitreal injections of anti-VEGFs in ARPE-19 and MIO-M1 cells in vitro.

**Methods:** ARPE-19 and MIO-M1 cells were cultured in 96 well plates. Some cultures were treated for 48 hours with Bevacizumab and Aflibercept with and without agitation of the syringes, while others were served as controls. Cultures were analyzed for cell viability (MTT assay), Reactive Oxygen Species (ROS) and JC-1 (mitochondrial membrane potential). Two syringes brands available for intravitreal injections were compared (BD-Becton Dickinson and SR-Saldanha Rodrigues), 1ml/cc both. The conditions were: untreated, bevacizumab and aflibercept (agitation versus no agitation in all groups). The experiments were repeated twice. P values

**Results:** In SR and BD syringes, cell viability showed no difference between groups with or without agitation in both cell lines tested. The ROS showed no difference with both syringe types in MIO-M1 groups and BD syringe in ARPE-19 cells, but in SR syringes, both treated groups of the ARPE-19 cells increased the oxidative stress in the groups flicked compared with their controls (bevacizumab p=0.0180 and aflibercept p=0.046). JC1 assays of BD syringes in both MIO-M1 groups treated with anti-VEGFs, showed the mitochondrial membrane potential decreased when flicked (bevacizumab p=0.0151 and aflibercept p=0.077). In SR syringes, JC1 decreased in control groups when flicked (p=0.0014) and in the aflibercept group when flicked (p= 0.0471). On ARPE-19 cells, JC-1 showed no difference in BD syringe groups but was statistically significant in SR syringes in both tread groups (bevacizumab p=0.0168 and aflibercept p=0.0165).

**Conclusion:** The SO droplets released during the intravitreal injections, with or without agitation, had no effect on cell viability. The ROS in both syringe brands tested on MIO-M1 cells had no effect as well as in ARPE-19 cells that used the BD syringes, but in the SR syringes on ARPE-19 cells both treated groups significantly increased the ROS in the flicked groups. The JC-1 in ARPE-19 cells had no effect on BD syringes and decreased in both treated groups on SR syringes. The JC1 levels in MIO-M1 cells in both syringes decreased in groups with agitation treated with anti-VEGF. The results highlight that the agitation of the syringe during the intravitreal injection may contribute to decrease the mitochondrial membrane potential without any effects on the cell viability.

**Keywords:** Retinal cells, syringes

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**5. ABSTRACT (REQUIRED):**

**Title:** Retinopathy of Prematurity: Accuracy of ROPScore and WINROP in a Brazilian population

**Author and Co-authors:** Amanda F. L. Morais; Luisa M. Hopker; Nilva S. B. Moraes; Bernardo Reichert; Murilo V. De Prã; Anna Carolina B. Linhares; Ricardo M. Takashima; Norma Allemann

**Purpose:** To evaluate the sensitivity and specificity of the ROPScore and WINROP in predicting the risk of developing severe retinopathy of prematurity (ROP) (pre-threshold type 1) in a sample of premature infants in Brazil.

**Methods:** Retrospective evaluation of medical records of preterm newborns with birth weight

**Results:** The study included 288 premature infants. The incidence of confirmed severe retinopathy of prematurity was 6.6%. In predicting severe ROP, the ROPScore showed a sensitivity of 100%, a specificity of 44.6% (95% CI 38.7-50.6), a positive predictive value of 11.3% (95% CI 6.5-16.1), and a negative predictive value of 100%. The WINROP algorithm, in predicting severe ROP, showed a sensitivity of 78.9% (95% CI 60.6-97.3), a specificity of 51.3% (95% CI 45.3-57.3), a positive predictive value of 10.3% (95% CI 5.3-15.2), and a negative predictive value of 97.2% (95% CI 94.5-99.9).

**Conclusion:** The ROPScore detected all patients at risk for severe retinopathy of prematurity. This study showed an accuracy for the ROPScore similar to previous studies in Brazil, suggesting its inclusion in Brazilian guidelines in order to reduce the number of ophthalmological exams required in the screening for ROP. On the other hand, the WINROP did not demonstrate excellent accuracy in this Brazilian sample, reaffirming the importance of adjusting screening algorithms for ROP to the context of each country. .

**Keywords:** Retinopathy of prematurity; ROPScore; WINROP; Prediction model, Premature newborns



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Conclusion  
Keywords

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

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

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**Advisor: Rubens Belfort Mattos Jr.**

**CEP Number: 19053-821**

**5. ABSTRACT (REQUIRED):**

**Title:** Prospective Biomarkers Study and Dichotomous Analysis in Patients with Diabetic Macular Edema: A Swept-Source OCT and OCT-Angiography Multimodal Images Evaluation and Insights from Aflibercept Treatment

**Author and Co-authors:** Marcussi Palata Rezende, Fernanda Atoui Faria, Julia Polido, Rubens Belfort Jr, Thiago Cabral.

**Purpose:** The main objective of this study was to conduct a multimodal evaluation using swept-source technology in SS-OCT and SS-OCT-Angiography (SS-OCT-A) exams in patients with diabetic macular edema (DME). We leveraged state-of-the-art high-resolution retinal imaging to explore whether retinal biomarkers are significant predictors of visual and structural outcomes in DME. We also did a dichotomous analysis of the biomarkers and we assessment the response to treatment based on the subdivision of choroidal thickness.

**Methods:** A prospective, interventional case series in patients diagnosed with DME who were treatment-naïve. The biomarkers studied: best-corrected visual acuity for LogMAR (VA LogMAR), central macular thickness (CMT), subfoveal choroidal thickness (SFCT), avascular area of the superficial plexus (AASP), avascular area of the deep plexus (AADP), and capillary density (CD). The patients received loading dose of aflibercept. Subanalysis divided patients into treatment responders (group1) and resistants (group 2).

**Results:** 28 eyes from 25. There was a statistically significant improvement in VA LogMAR ( $0.7250 \hat{\pm} 0.23$  to  $0.3957 \hat{\pm} 0.21$ ;  $p = 0.000008$ ), and significant reductions in CMT  $\hat{\mu}m$  ( $339.04 \hat{\pm} 66.19$  to  $265.21 \hat{\pm} 55.75$ ;  $p = 0.000004$ ), SFCT ( $221.71 \hat{\pm} 69.69$  to  $209.07 \hat{\pm} 70.92$ ;  $p = 0.000048$ ), CD ( $17.90 \hat{\pm} 7.82$  to  $15.35 \hat{\pm} 5.80$ ;  $p = 0.038$ ), AASP  $\hat{\mu}m^2$  ( $235.374 \hat{\pm} 91,299$  to  $157.326 \hat{\pm} 77,815$ ;  $p = 0.000186$ ) and in the AADP  $\hat{\mu}m^2$  ( $996.335 \hat{\pm} 100,004.7$  to  $362.161 \hat{\pm} 277.225$ ;  $p = 0.000017$ ). In the dichotomous analysis: 15 were in Group 1 (53.57%) and 13 in Group 2 (46.43%). After statistical analysis, it was found that there were no significant differences between any of the pre-treatment biomarkers between the responsive group and the resistant group. And in the assessment of the subdivision of the choroidal thickness, we observed that in the range of 211 to 270  $\hat{\mu}m$ , we found the lowest p-value (0.004), indicating a significant reduction in choroidal thickness within this range after treatment, and there was also a more significant reduction in the AADP and in CD.

**Conclusion:** This study highlighted the effectiveness of aflibercept in treatment of naïve patients with DME, showing significant improvements in visual acuity and retinal morphology. All biomarkers (VA LogMAR, CMT, CCT, AASP, AADP and DC), demonstrated notable post-treatment improvements. Although pre-treatment biomarkers did not predict treatment response, certain post-treatment biomarkers (VA LogMAR, CMT, AADP and CD) indicated significant differences between responders and resistants. Notably, the analysis found that patients with choroidal thickness between 211 and 270  $\hat{\mu}m$  showed the greatest reductions, suggesting they may be more responsive to treatment.

**Keywords:** aflibercept, swept-source OCT, OCT-angiography, diabetic macular edema, naïve-treatment, diabetic retinopathy, choroidal thickness, biomarkers, optical coherence tomography (OCT), optical coherence tomography angiography (OCTA).

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

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**5. ABSTRACT (REQUIRED):**

**Title:** OCT Angiography: Interplay Between Subfoveal Choroidal Thickness, Macular Thickness, and Visual Outcomes in Neovascular Age-Related Macular Degeneration Following Intravitreal Aflibercept Treatment

**Author and Co-authors:** Daniel P. Beraldo, Marcussi P. Rezende, João Gabriel Alexander, Rubens Belfort Jr and Thiago Cabral

**Purpose:** Visual impairment in individuals aged 50 and older is often significantly attributed to age-related macular degeneration (AMD), which can lead to irreversible vision loss. The main treatment approach for neovascular AMD is antiangiogenic therapy. Recent studies have highlighted the choroid's involvement in various ocular conditions, making it an area of increasing interest. This research aims to evaluate visual acuity and investigate the relationships between pre-treatment variables such as foveal and choroidal thickness and angiographic changes observed through OCT-A, in relation to post-treatment outcomes.

**Methods:** This study will be designed as a prospective interventional study to investigate the changes in choroidal and macular thickness, as well as angiographic alterations on OCT-A, in patients with neovascular AMD who received intravitreal aflibercept injections. The sample will consist of the largest number of patients diagnosed with neovascular AMD who have not received prior treatment (naive) and have been recommended for intravitreal aflibercept injections. Inclusion criteria (a) Patients with neovascular monocular AMD, with type 2 neovascular membrane (subretinal), who were treatment-naive and received three intravitreal injections of aflibercept during the specified period, with the same ophthalmologist administering the injections. (b) Complete medical records with research data, including sex, age, duration of illness, current medications, pre and postoperative intraocular pressure (IOP), corrected visual acuity (VA) before and after the procedure, and OCT-A scans. Patients should not have received any previous intravitreal anti-VEGF treatments. (c) Patients who provided signed Free and Informed Consent Forms, which were filled with their medical records.

**Results:** There are no results yet.

**Conclusion:** There is no conclusion yet.

**Keywords:** Age-related macular degeneration, Neovascular, Aflibercept, Macular thickness, Choroidal thickness, OCT Angiography

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**Advisor: Juliana Maria Ferraz Sallum**

**CEP Number: 22210-065**

**5. ABSTRACT (REQUIRED):**

**Title:** Genetic characteristics of 30 Brazilian families with inherited pediatric cataract

**Author and Co-authors:** Zin OA; Neves LM; Motta FL; Almeida Jr DC.; Cunha DP; Agonigi BNS; Horovitz DDG; Malacarne J; Rodrigues APS; Rodrigues GD; Tinoco ML; Zin AA; Vasconcelos ZFM and Sallum JMF.

**Purpose:** To investigate genotype-phenotype correlations of Brazilian families with inherited pediatric cataract. Furthermore, to analyze the impact of results on clinical diagnosis and family counselling.

**Methods:** Ophthalmological and genetical clinical evaluation of 30 families (122 individuals in total) with at least 2 family members with pediatric cataract. One family member from each family without cataract was also evaluated for trio analysis. Peripheral blood was collected and whole exome sequencing performed, followed by bioinformatics analysis. Approval from the Ethics Committee of UNIFESP was conceded under protocol code 4.508.968.

**Results:** Sixteen out of the 30 (53,3 %) families had conclusive results with pathogenic (P) or likely pathogenic (LP) variants. Three (10,0%) families presented variants of uncertain significance (VUS) in cataract genes (CRYBA4, GJA3 and TRPM3). The most common gene associated was Ferritin-light-chain (FTL), crystallin genes were present in 6 families (CRYAA, CRYBB2, CRYBB3, CRYBA4) and lens membrane protein genes in 5 families (LIM2, GJA3 and GJA8). Syndromic genes (FTL, NHS and OPA3) were found in 5 families, 3 of which were unaware of the systemic associations with hyperferritinemia cataract syndrome, Nance-horan syndrome and autosomal dominant optic atrophy with hypoacusia respectively. Novel variants were described in 3 genes (CRYBB3, NHS and TRMP3). Ten individuals had secondary findings in genes related to cancer, neurofibromatosis and malignant hyperthermia (PMS2, MBD4, MYH7, RYR1 and NF2).

**Conclusion:** This cohort of patients with inherited cataracts has expressive genetic findings. Novel variants were found, others were reclassified, rare syndromes described, and individuals warned of secondary findings and potential systemic risks of syndromic cataracts. These impact not only the patients with cataracts, but their families and future generations through family counselling. Funding by PRONAS/PCD, grant number 25000.193451/2019-21 and Fiotec grant number IFF-002-FEX-22.

**Keywords:** Pediatric cataract, familial cataract, whole exome sequencing

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**Advisor: Juliana Maria Ferraz Sallum**

**CEP Number: 0854/2019**

**5. ABSTRACT (REQUIRED):**

**Title:** Intra-arterial chemotherapy for retinoblastoma, outcomes analysis in 357 eyes: 13 years of experience in a referral center in Brazil

**Author and Co-authors:** Luiz F. Teixeira, MD1,2 Carla R.P.D. Macedo, MD2 Jos  R.F. Fonseca, MD PhD2,3 Bruna Morales, RN2 Monique K Mangeon, MD1 Bruno A. Miranda, MD1,2 Ricardo Casaroli-Marano, MD MSc PhD4 Juliana M. F. Sallum, MD PhD1

**Purpose:** Evaluate the outcomes of intra-arterial chemotherapy (IAC) for the treatment of naive and non-naive retinoblastoma eyes. Ocular survival rates, risk factors for enucleation, ocular complications, metastatic disease, and overall survival were analyzed.

**Methods:** Design: A retrospective, single-institution study Participants: A total of 300 patients treated with IAC between April 2010 and April 2023 were included. Interventions: During IAC infusions, 1 3 drugs were used (melphalan, 3.0 7.5mg; topotecan, 0.3 2.0 mg; carboplatin, 20 50 mg). Adjuvant therapy was used as needed to consolidate treatment. Main outcome measures: Ocular survival rates, ocular complications, and the risk factors for enucleation were measured.

**Results:** A total of 357 eyes were treated with 1,536 IAC infusions, with a median of four cycles per eye, and followed for 60.69 months. The Kaplan Meier estimates for the overall ocular survival were 90% at 1, 89% at 2, and 86% at 5 years. No difference in ocular survival was found between IAC indications (primary 88% vs secondary 85% vs bridge 89%; p = 0.52) or for the use of tandem therapy (tandem 85% vs no tandem 87%; p = 0.93). Intravitreal chemotherapy as adjuvant therapy was used in 31.37% and plaque therapy in 5% of the eyes. The group did not receive external beam radiation. Univariable and multivariable analyses showed that the presence of subretinal seeds was significantly associated with an increased risk of enucleation, and the use of ophthalmic artery ostium in >50% of infusions per eye was a protective factor to avoid enucleation. Retinal and/or choroidal vascular, ischemic, or atrophic effects were the most frequent complications found in 5.0% of the eyes. Metastatic disease was observed in 0.33% of the patients. The overall 5-year patient survival was 99.3%.

**Conclusion:** The use of IAC in different indications (primary, secondary, bridge, and tandem) to treat naive or recurrent refractory retinoblastomas showed successful results. Most eyes were preserved. Subretinal seeds at presentation were associated with a high enucleation risk. The use of the ophthalmic artery ostium for drug delivery evaded enucleation.

**Keywords:** Intraocular retinoblastoma; ophthalmic artery chemotherapy; intra-arterial chemotherapy; primary therapy; secondary therapy; bridge therapy; tandem therapy; melphalan, topotecan

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**Advisor: Ana Luisa Höfling-Lima**

**CEP Number: 53829321**

**5. ABSTRACT (REQUIRED):**

**Title:** Clinical outcome in patients with infectious keratitis treated with Rose Bengal Photodynamic Antimicrobial Therapy (RB-PDAT) at the Federal University of Sao Paulo (UNIFESP)

**Author and Co-authors:** Tabuse AM, Kase C, Rocchetti TT, Yu MCZ, Wakamatsu T, Ito L, Vieira L, Campos MSQC, Freitas D, Hofling-Lima AL

**Purpose:** To determine the clinical outcomes in patients treated with RB-PDAT for infectious keratitis (IK) caused by bacteria and fungi. We retrospectively reviewed patient charts with IK that underwent RB-PDAT at UNIFESP between March 2023 and June 2024.

**Methods:** An analysis of sex, age, and risk factors was performed. Ophthalmic exam consisted of best corrected visual acuity (BCVA), slit-lamp exam, and photography. Corneal scraping was carried out. A patient was considered eligible if they received appropriate standard medical therapy without clinical improvement. Patients received a 30-minute dose of topical RB (0.1% RB in 0.9% sodium chloride) which was applied in 3-minute intervals to the de-epithelialized cornea with an 8-mm sponge soaked with RB solution. This was followed by irradiation with a 6mW/cm<sup>2</sup> custom-made green LED source (525nm) - provided by the Ophthalmic Biophysics Center from the Department of Ophthalmology of the Bascom Palmer Eye Institute - for 15 minutes (5.4J/cm<sup>2</sup>). The main outcome measure was frequency of RB-PDAT success, defined as avoidance of therapeutic penetrating keratoplasty (TPK). Secondary outcome measures included time from RB-PDAT to clinical resolution.

**Results:** 29 patients (29 eyes) were enrolled. The gender distribution was 12 males (41%) and 17 females (59%). The average age was 46 years (SD 29.5, 19-78 years). A microbiologic diagnosis was confirmed through culture in 22 patients, whereas in 7 the diagnosis remained elusive. *P. aeruginosa* was the most frequent microbe identified (4 cases), followed by *Fusarium* spp (3 cases) and *S. pneumoniae* (3 cases). Most individuals reported a history of contact lens wear (44.8%) while 38% reported ocular trauma and contact with soil. Additional comorbidities included previous use of topical immunosuppressor (13.8%). The outcome was considered successful in 24 (82.7%) individuals. In these 24 individuals, time to clinical resolution after RB-PDT session was 54.4 ± 47.5 days. Conversely, RB-PDAT was considered a failure in 5 patients (28.57%) where no clinical response was observed, necessitating subsequent TPK after a mean of 19 ± 12 days.

**Conclusion:** RB-PDAT is a potential adjunct therapy for infectious keratitis caused by bacteria and fungi that may reduce the need for a therapeutic penetrating keratoplasty.

**Keywords:** Rose Bengal Photodynamic Antimicrobial Therapy, pack-cxl, crosslinking, rose bengal, photodynamic therapy, keratitis

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**Advisor: Ana Luisa Höfling-Lima**

**CEP Number: 09090-220**

**5. ABSTRACT (REQUIRED):**

**Title:** Panel of tear and serum biomarkers in keratoconus

**Author and Co-authors:** Author Renato Leca , Co-author Fernando Fonseca / Ana Luisa Hofling Lima Farah

**Purpose:** In the scientific literature there are still few studies on antioxidant aspects, especially on gene expression of the antioxidant enzymes catalase, superoxide dismutase and glutathione peroxidase and on erythrocyte nuclear factor 2 (Nrf2), factors linked to the inflammatory response, such as interleukins 1, 2, 6 and 10, tumor necrosis factor alpha (TN alpha) and ultrasensitive C-reactive protein, ferritin in addition to vitamin D3, in plasma and especially in tears, in eyes with keratoconus; In this study we have intended to deepen knowledge about how antioxidant and inflammatory responses occur, both in plasma and tears, in eyes with keratoconus. With this study, we hope to better understand the pathophysiological mechanisms of this ophthalmological condition.

**Methods:** 32 patients with keratoconus ( 64 eyes) and 39 volunteers ( 78 eyes) were selected to serve as a control group. 3 ml of venous blood was collected from all participants, and we used Schirmer strips for tear collection; the gene expression of the extracted material was subjected to appropriate laboratory methods, such as ELISA (Enzyme Immunosorbent Assay) and electrochemiluminescence, to detect its levels.

**Results:** 64 eyes were evaluated, 32 individuals with keratoconus, 17 women and 15 men, with an average age of 20.5 years, and 78 eyes of 39 volunteers without ophthalmological problems, who served as controls, 27 women and 12 men, with an average of age 21.75 years. So far we only have the results for vitamin D3, but quite possibly by the time we present at Research Days we will have other biomarkers evaluated. The mean vitamin D3 assessed in plasma was 21.36 ng/ml, against 29.95 ng/ml (p

**Conclusion:** Compared with control eyes, the results of vitamin D3 levels were significantly lower both in plasma and in tears, particularly in tears, thereby demonstrating the important relationship of vitamin D3 levels in keratoconus. These results allow us to suggest that tear vitamin D3 level could be a potential biomarker for keratoconus. We are waiting for the analysis of other biomarkers to have a more appropriate idea of the pathophysiology of keratoconus.

**Keywords:** Keratoconus, vitamin D, PCR, TN alpha, antioxidants enzymes, ferritin, Nfr2

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

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

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

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**Advisor: Ana Luisa Höfling-Lima**

**CEP Number: 59009-810**

**5. ABSTRACT (REQUIRED):**

**Title:** Rose Bengal Photodynamic Antimicrobial Therapy (RB-PDAT) as an adjuvant treatment for Acanthamoeba Keratitis in Sao Paulo Brazil

**Author and Co-authors:** Camila Kase, Aileen Tabuse, Talita Rocchetti, Mauro Campos, Ana Luisa Hofling-Lima, Denise de Freitas

**Purpose:** To evaluate RB-PDAT efficacy as an adjuvant treatment for Acanthamoeba keratitis.

**Methods:** Patients with Acanthamoeba keratitis resistant to antimicrobials or with residual cysts. RB-PDAT involved applying Rose Bengal 0.1% to de-epithelized corneas, followed by green LED irradiation (5.4J/cm<sup>2</sup>). Antimicrobial treatment with biguanide or chlorhexidine and propamide isethionate eye drops was maintained. Primary outcome was the avoidance of therapeutic penetrating keratoplasty (TPK) within a follow-up period of up to 6 months.

**Results:** Eleven patients were treated, with a mean age of 40.81 years (SD 14.06); six were female. All had a history of contact lens use, and one had a previous TPK with disease recurrence. TPK was avoided in eight patients (72.7%), while it was needed in three patients (27.3%); however, no infection recurred in the grafts. Confocal microscopy showed a reduction in cyst density after RB-PDAT in 77.8% (7/9) of cases, while no change was observed in 22.2% (2/9) of cases.

**Conclusion:** RB-PDAT shows potential as an effective adjuvant therapy for Acanthamoeba keratitis, reducing the need for TPK and preventing recurrence after TPK

**Keywords:** corneal cross-linking, keratitis, acanthamoeba

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

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**Advisor: Denise de Freitas**

**CEP Number: 11772-018**

**5. ABSTRACT (REQUIRED):**

**Title:** COMPARISON OF IN VIVO CONFOCAL MICROSCOPY, CORNEAL SHAVING CULTURE AND PCR FOR DIAGNOSIS OF ACANTHAMOEBA KERATITIS

**Author and Co-authors:** Renata Cavalcanti Portela Boro; Luciana Lopes Rocha; Ãtala de Moraes Vieira Gatti; Myrna SerapiÃo dos Santos; Maria CecÃlia Zorat-Yu; Talita Trevizani Rocchetti; Denise de Freitas

**Purpose:** Compare corneal scraping culture, PCR and in vivo Confocal Microscopy in the diagnosis of Acanthamoeba Keratitis, and also compare sensitivity and specificity of Acanthamoeba keratitis diagnostic methods

**Methods:** All patients who belong to the Cornea and External Diseases Outpatient Clinic at Hospital SÃo Paulo with infectious keratitis, suspected of Acanthamoeba infection and virgins on specific treatment for Acanthamoeba (brolene, biguanide, chlorhexidine) will be submitted to the Acanthamoeba infection investigation protocol, which it is composed of the following exams, in this order: confocal microscopy, in order to evaluate the presence of cysts compatible with the presence of Acanthamoeba or a characteristic inflammatory pattern; corneal keratitis smear performed with a Kimura spatula and deposited on slides that will be stained with iron hematoxylin or by the Giemsa method; corneal scraping cultures on blood agar, chocolate agar, sabouraud agar, thioglycollate, BHI and Acanthamoeba medium (non-nutrient agar enriched with dead Escherichia coli); polymerase chain reaction PCR analysis of scrapings from infectious corneal keratitis in investigation of Acanthamoeba. Finally, all diagnostic methods will be tabulated and analyzed according to sensitivity and specificity of positivity by Acanthamoeba

**Results:** So far, information from 34 patients was considered, whose mean age was 35.1 years (19-60 yo). It was observed that 52.9% of the patients were female and 55.9% had the right eye evaluated affected by infection. All patients had in vivo confocal microscopy positive for Acanthamoeba cysts. It is also noted that only 26.5% were positive in the culture of Acanthamoeba. 45.2% of the cultures were positive for bacteria. Among patients with a positive culture for bacteria, 35.7% were positive for Staphylococcus epidermidis. We are analyzing the results of the PCR analyses.

**Conclusion:** Although the gold standard for diagnosing Acanthamoeba keratitis is the culture of corneal scrapings in a specific medium, in vivo confocal microscopy has been recommended, and detection of Acanthamoeba DNA via PCR is thought to be highly sensitive and specific.

**Keywords:** Acanthamoeba keratitis; PCR for Acanthamoeba; Confocal microscopy for Acanthamoeba



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

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**Advisor: Denise de Freitas**

**CEP Number: 0572/2022**

**5. ABSTRACT (REQUIRED):**

**Title:** The interaction of Acanthamoeba polyphaga cysts and trophozoites with human macrophages

**Author and Co-authors:** Larissa Fagundes Pinto, Reinan Nascimento Araujo, Amanda Santos Freire, João Lucas Benicio Alves, Nicole Tiemi Inoue, Mylena Cristina de Souza Barsch, Mauro Silveira de Queiroz Campos, Karina Ramalho Bortoluci, Denise de Freitas

**Purpose:** Some parts of the eye are immune privileged and little is known about the immune responses that develop in Acanthamoeba keratitis (AK). For this reason, this study aims to investigate the inflammatory response of human macrophages when challenged by Acanthamoeba polyphaga in vitro and whether this infection allows inflammasome assembly.

**Methods:** For that, human macrophages, treated or not with lipopolysaccharide (LPS; 200 ng/mL), were challenged with A. polyphaga (ATCC 30461) cysts and trophozoites using a multiplicity of infection of ten cells for one amoeba (MOI 1:10) for 4, 24, and 48 hours. The infection rate and survival of human macrophages and amoebae were evaluated in vitro, as well as inflammatory mediators (nitric oxide (NO) and reactive oxygen species (ROS)) and the assembly of a possible inflammasome by counting ASC specks (Apoptosis-associated speck-like protein containing a CARD).

**Results:** Human macrophages, treated or not with LPS, were able to internalize A. polyphaga cysts and trophozoites and control the infection since the number of amoebae was lower than the control groups (only cysts or trophozoites) (p

**Conclusion:** The data suggest that there is control of the infection and cytotoxic effect by an as-yet-unknown mechanism.

**Keywords:** Acanthamoeba, macrophage, inflammation

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

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**Advisor: Denise de Freitas**

**CEP Number: 02562-021**

**5. ABSTRACT (REQUIRED):**

**Title:** Corneal Confocal Microscopy Findings in Patients with Sjögren's Disease and Small Fiber Neuropathy

**Author and Co-authors:** Laura Caldas dos Santos, Virginia Fernandes Moça Trevisani, Tais Hitomi Wakamatsu, Denise de Freitas

**Purpose:** This study aims to evaluate the use of Corneal Confocal Microscopy (CCM) for diagnosing Small Fiber Neuropathy (SFN) in patients with Sjögren's Disease (SD) by assessing corneal nerve fibers and correlating those findings to the changes found in skin biopsies.

**Methods:** This study includes 50 patients with SD over 18 years of age and with symptoms of SFN. Patients with diabetes mellitus type 2, amyloidosis, and contact lens users are excluded. The study is conducted at the Ophthalmology Outpatient Clinic of Hospital São Paulo UNIFESP. The study team presents and explains the informed consent form to the patient. The Compass 31 questionnaire is being applied to the SD patients to help select those with suspected SFN. The suspected patients will undergo a skin biopsy for confirmation of the disease. We will also measure corneal tactile sensitivity using the Cochet-Bonnet esthesiometer and perform corneal confocal microscopy with the Heidelberg III Rostock Corneal Tomography. This will allow us to observe changes due to neuropathy and then compare these findings to the biopsy results using routine staining (hematoxylin-eosin) and immunohistochemical examination (PGP 9.5), thereby validating our diagnostic approach. Other patients with SD who did not raise suspicion of SFN during the questionnaire application will be included as a control group. These patients will also undergo corneal confocal microscopy to look for changes related to them. SFN. The patients with suspected changes will perform sensitivity testing. A skin biopsy will also be indicated to investigate SFN-related changes in these patients.

**Results:** Research is in the data collection phase. No results are available.

**Conclusion:** Research in the data collection phase. No conclusions are available.

**Keywords:** Sjögren, Cornea Confocal Microscopy, Small Fiber Neuropathy

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

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

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**Advisor: Rubens Belfort Mattos Jr.**

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**5. ABSTRACT (REQUIRED):**

**Title:** Safety of Ocular Intrastromal Micropuncture on Eye Bank Corneas Using a Tattoo Machine

**Author and Co-authors:** Michelle de Lima Farah Santinello Samir Arbache Rubens Belfort Jr

**Purpose:** The purpose of this study is to evaluate the safety of intrastromal micropuncture on human corneas from an eye bank using a tattoo machine

**Methods:** Twenty human corneas were provided for this experimental study. Each cornea underwent a procedure involving the application of pigment and saline solution. The corneas were divided, with one half of each cornea receiving ink application and the other half receiving saline solution. Black ink (brand: "Electric Ink," density: 1,271,460  $\hat{I}$ g/ml) was applied at a frequency of 60 Hz, using the same needle exposure (six passes). Anterior segment optical coherence tomography (OCT - Zeiss) was performed before and after the procedure to measure the depth of the punctures. Three measurements were taken for each cornea, which were then analyzed and compared. The "Cheyenne" tattoo machine and its cartridges equipped with five needles (ANVISA Registers: 802 81110015 and 802 81110019) were used for all applications. These devices are manufactured by MT.DERM GmbH (Gustav-Krone-StraËe 3, DE-14167 Berlin, Germany; ANVISA Register 80281110016).

**Results:** The measurements comparing the corneas and the various punctures indicated that no corneas were perforated. However, the measurements varied significantly, showing no consistent pattern, and ranged from 107 microns to 486 microns, with an average depth of 247 microns. No corneal perforations were observed in any of the samples.

**Conclusion:** The use of a tattoo machine for intrastromal micropuncture was found to be safe. However, further studies are needed to assess its effectiveness and to establish a consistent pattern of results.

**Keywords:** cornea, intrastromal micropuncture, eye bank corneas

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

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**Advisor: José Álvaro Pereira Gomes**

**CEP Number: 18030195**

**5. ABSTRACT (REQUIRED):**

**Title:** Comparison of Donor Corneas with and without Descemet Membrane in Deep Anterior Lamellar Keratoplasty with Intraoperative Perforation

**Author and Co-authors:** Constantin Philippe Salha, Adriana dos Santos Forseto, Nicolas Cesario Pereira, Jose Alvaro Pereira Gomes

**Purpose:** To assess whether retaining the donor cornea's DM in DALK with intraoperative perforation increases the risk of postoperative double anterior chamber. Additionally, the study will analyze whether there is a difference in visual outcomes (considering corrected visual acuity and the use of rigid gas-permeable lenses), topographic astigmatism, and other postoperative complications such as DALK rejection.

**Methods:** This is a prospective, randomized, comparative study conducted at the Sorocaba Ophthalmology Hospital (HOS) on patients undergoing DALK with intraoperative perforation of the recipient DM. All surgeries will be performed by second-year Cornea fellows at HOS under the supervision of senior surgeons. Inclusion criteria: patients aged 18 years or older, with an indication for DALK at HOS, and who agree to participate in the study. Exclusion criteria: patients requiring conversion to penetrating keratoplasty (PK), pregnant or lactating patients, and patients without intraoperative perforation. DALK will be performed using either the Big Bubble or manual dissection technique. If an intraoperative perforation of the recipient DM is detected, the patient will receive a donor cornea with (group 1) or without (group 2) DM, according to prior randomization. The surgery and postoperative care will follow the standard protocols of HOS. Postoperative evaluations will include best corrected vision with glasses and contact lenses, topographic astigmatism, specular microscopy, and complications, with follow-up for up to 2 years after the procedure.

**Results:** To date, 23 patients have been included. Twelve patients were assigned to the group with the recipient Descemet membrane preserved, and 13 patients had their recipient Descemet membrane removed after confirming intraoperative microperforation. A significant difference in the distribution of double chamber was observed based on Descemet membrane status ( $p=0.041$ ). Thus, a higher percentage of double chambers (58.3%) was observed in the group with the Descemet membrane preserved compared to those without (15.4%). Age, laterality, and perforation site did not statistically modify the chance of double chamber formation.

**Conclusion:** -

**Keywords:** DALK; Descemet Membrane; Double Anterior Chamber; Corneal Transplant; Keratoconus

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

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**Advisor: José Álvaro Pereira Gomes**

**CEP Number: 00000-000**

**5. ABSTRACT (REQUIRED):**

**Title:** Evaluation of the therapeutic effects of autologous serum and platelet-rich plasma eye drops in ocular surface reconstruction

**Author and Co-authors:** Italo Pena de Oliveira Diogo Ponciano dos Santos Prfa Dra. Priscila Cardoso Cristovam Prof. Dr. Josã© Álvaro Pereira Gomes

**Purpose:** To maintain a healthy cornea, the epithelial surface is maintained by basal cells through a process of proliferation and migration of limbal cells, intensifying the healing process. Some experimental models in animals have shown changes in the extracellular matrix and stromal cells after corneal injury; thus suggesting that stromal injury is followed by death of keratocytes around the injury, influx of inflammatory cells and differentiation of keratocytes that were still alive at the injury site, indicating that epithelial-stromal interactions stimulate the process of keratocyte proliferation and migration. The use of biologically active agents has been widely studied, such as blood products, as they have the ability to increase healing and stimulate regeneration in the treatment of ocular surface diseases. In this sense, the effect of autologous serum (AS) eye drops, obtained from blood centrifugation and separation of the plasma component, has been extensively studied. However, it is known that this manufacturing technique results in the loss of important components of the healing process and the coagulation cascade, such as platelets. Thus, to elucidate the role of blood products and the potential benefit of a modified technique for producing autologous serum by enriching it with platelet-rich plasma (PRP), we conducted a study in an animal model to evaluate corneal epithelial healing after keratectomy.

**Methods:** Eight animals were divided into four groups: control, autologous serum (AS), autologous serum enriched with platelet-rich plasma (AS + PRP) and platelet-rich plasma (PRP). The study began with total mechanical keratectomy in the right eye, followed by application of Moxifloxacin 3 times daily in all groups, associated with application of the studied eye drops 3 times daily in the respective groups, with daily monitoring for 7 days. The factors evaluated during monitoring were eyelid edema, ocular secretion, corneal neovascularization, corneal opacity and epithelial defect. Daily photographs were taken for measurement and monitoring.

**Results:** in progress

**Conclusion:** in progress

**Keywords:** Cornea, ocular surface, blood derivatives

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Poster guidelines:  
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**Advisor: José Álvaro Pereira Gomes**

**CEP Number: 79350-917**

**5. ABSTRACT (REQUIRED):**

**Title:** Prevalence and risk factors for dry eye disease: the Sao Paulo dry eye study

**Author and Co-authors:** Leonardo Guedes C. Marculino, Rossen Mihaylov Hazarbassanov, Nicolle Queiroz-Hazarbassanov, Flavio Hirai, Tais Hitomi Wakamatsu, Jose Arthur P. Milhomens Filho, Jose Alvaro Pereira Gomes

**Purpose:** To estimate the prevalence and risk factors of dry eye disease symptoms and clinical diagnoses in Sao Paulo city, state of Sao Paulo, Brazil.

**Methods:** A total of 582 participants over 18 years old, living in the east zone of Sao Paulo city responded to a short questionnaire. Dry eye disease was on that is defined by the presence of severe symptoms or previous clinical diagnosis of dry eye disease by an ophthalmologist. The association between dry eye disease and possible risk factors was assessed.

**Results:** Overall dry eye disease severe symptoms and/ or clinical diagnoses prevalence was calculated as 24.4% for both sexes. Women presented a higher frequency of severe symptoms of dry eye disease (16.07%) than men (8.48%;  $p=0.0244$ ), as well as the composite of severe symptoms or diagnosed dry eye disease, presented by 26.86% of women and 18.18% of men ( $p=0.0366$ ). In women, ages between 55 to 75 years old were associated with dry eye disease severe symptoms (OR=3.11; 95%CI 1.56-6.23,  $p=0.001$ ) and diagnosed dry eye disease (OR=2.02; 95% CI 1.04-3.93,  $p=0.037$ ). Hypertension was significantly associated with dry eye disease symptoms (OR=1.98; 95% CI 1.14-3.43,  $p=0.015$ ) and diagnoses (OR=3.54; 95% CI 1.92-6.53,  $p=0.0001$ ) in women. Eye drops use was associated with severe symptoms of dry eye disease and diagnosed dry eye disease in both women and men ( $p=0.01$ ).

**Conclusion:** Dry eye disease prevalence in Sao Paulo city is higher in women than in men. Age and hypertension were stronger risk factors of dry eye disease for women, while eye drops use was a significant indicator of dry eye disease for both sexes.

**Keywords:** Dry eye syndromes; ocular surface; Surveys and questionnaires

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

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**Advisor: Mauro Silveira de Queiroz Campos**

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**5. ABSTRACT (REQUIRED):**

**Title:** Quality of life, high order aberrations and centralization of 3 types of diffractive lenses implanted in patients undergoing phacoemulsification.

**Author and Co-authors:** Ivan Corso Teixeira, Mauro Silveira de Queiroz Campos

**Purpose:** Evaluate the quality of vision using aberrometry data and questionnaires, in patients undergoing phacoemulsification with the implantation of 3 different models of diffractive intraocular lenses. Secondly, analyze whether the centralization of the intraocular lens interferes in any way with both assessments.

**Methods:** Randomized clinical trial, with allocation of individuals into 3 groups. All patients underwent traditional phacoemulsification in both eyes, with each group receiving one of three different types of intraocular lenses: Acrysof IQ Panoptix TFNT00, AT-LISA trifocal 839MP and Tecnis Synergy OptiBlue. After 3 months, the following data was collected: visual acuity with and without correction (distance, intermediate and near); defocus curves; vision quality questionnaires (TypeQ, CatQuest and NavQ) and maps of corneal topography; aberrometry and IOL centration.

**Results:** 45 patients (90 eyes) were selected for the study. 4 patients (8 eyes) were excluded: 1 due to failed preoperative examinations, 1 due to health problems and 2 due to lack of follow-up. Panoptix group consisted of 13 patients (26 eyes), with average age of 67,7 years (SD=8,6); AT-LISA group consisted of 13 patients (26 eyes), with average age of 65,8 years (SD=7,2). Synergy group consisted of 15 patients (30 eyes), with average age of 67,7 years (SD=6,2). The differences between better average corrected distance, intermediate (80cm) and near (40cm) visual acuity (logMAR) were not statistically significant between groups. 0-10 distance vision satisfaction was better, in average, in the Panoptix group (9,54 x 9,23 x 9,33) and near vision satisfaction was better in the Synergy group (8,39 x 8,31 x 9,46). When asked if they would recommend the surgery, all groups had high levels of agreement (9,54 x 9,92 x 9,54). More statistical analysis with objective data are yet to be done.

**Conclusion:** The 3 groups had high levels of satisfaction, with better distance quality perceptions within the Panoptix group and better near distance quality within the Synergy group. Defocus curves showed slightly differences between groups, but high variability even inside the same group.

**Keywords:** Cataract, phacoemulsification, diffractive IOLs

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**Advisor: Paulo Schor**

**CEP Number: 0388/2019**

**5. ABSTRACT (REQUIRED):**

**Title:** Value-based Health Care Analysis in Cataract Surgery

**Author and Co-authors:** Author: Raphael de Faria Schumann Advisor: Professor Dr. Paulo Schor

**Purpose:** The aim of this study is to analyze,through the vision of the Value-Based Health Care (VBHC), the quality of treatment cycle of patients who underwent facectomy at Hospital São Paulo. VBHC is about the best results that matter to the patient at the lowest possible cost for that result.

**Methods:** The patient's perception is collected through Patient Reported Experience Measures (PREMs) with structured interviews (or questionnaires) made with the participants at the end of the treatment cycle (3 months), then the Patient Reported Outcome Measures (PROMs) and the clinical outcomes will be analyzed and we will make a metric proposal for the value equation. We randomly selected 280 files of patients who were scheduled only to facectomy and collected data regarding the outcomes that matters to patient and the clinical outcomes that matters to the hospital . After 90 days of the surgery we interviewed 70 patients regarding the satisfaction with the procedure and the doctors' and hospital's NPS. With the results of the data collections we will carry out statistical tests to obtain the main factors that could lead to the best patient's experience and best clinical outcomes. The analyzes considered different outcomes as: i) the patient's experience ; ii) postop VA improvement; iii) BCVA after surgery; iv) OR time; v) the occurrence of any operative (intra or post) complication.

**Results:** Demographic Factors: Age: 69.0 (PD 10.7) Female: 57.1%; Education Level: None: 11,0% , Basics: 48.3%, Medium: 26.3% and Superior: 14.4%; Epidemiologic Factors:Sistemic Comorbity: Any: 85.1% Ocular Comorbity: Any: 51.6% Clinical Outcomes:VA Improvement: 89.7% (IC 95% 85.4;92.8 ) BCVA: 20/20 to 20/25: 57% 20/30 to 20/40: 22% 20/40 to 20/100: 11,5%

**Conclusion:** Most of the patients had a VA better than 20/40 and a an improvement in the VA (89.7%). As expected the patients who had intraoperative complications presented a larger OR time (127.6 +- 38.4 vs 86.5 +- 28.4). The patients who had a subcapsular cataract had a better perception of positive patient experience (p=0,0283). The results show us that despite all the difficulties at the beginning of the pandemic, patients felt well cared for and had good clinical results in general. The study demonstrates the feasibility of collecting outcome measures in a practical and objective way and without the need for large expenses in financial or human resources; For the successful implementation of a value agenda, a joint effort by all sectors is necessary for correct data collection and subsequent analysis of the indicators.

**Keywords:** vbhc, cataract, outcomes, value-based health care



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

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**Advisor: Wallace Chamon**

**CEP Number: 12672-019**

**5. ABSTRACT (REQUIRED):**

**Title:** Correlations Between Ocular Landmarks and Effective Lens Position

**Author and Co-authors:** Felipe Marques de Carvalho Taguchi, Rafael Freire Kobayashi, Lucas de Oliveira Marques, Norma Allemann, Wallace Chamon

**Purpose:** To investigate the correlations between different preoperative anatomical landmarks of the eye and postoperative effective lens position.

**Methods:** Prospective study based on anterior segment swept-source OCT (AS-OCT) and biometry exams from a single center. Measurements including axial length, mean keratometry (Km), anterior chamber depth (ACD), lens thickness (LT), horizontal angle-to-angle distance (ACA), angle-to-angle depth (ATAd), lens vault (LV) and a novel reference defined as the distance between the cornea endothelium and the line joining the two scleral spurs on horizontal AS-OCT scans (CSS) were measured preoperatively. Anatomical lens position (ALP) was defined as the distance from the corneal endothelium to the intraocular lens anterior surface. Correlation between postoperatively measured ALP and ocular landmarks was calculated using linear regression analysis.

**Results:** A total of 25 eyes from 25 patients were included in this study. Simple linear regression displayed significant correlation (p

**Conclusion:** The CSS displayed the highest correlation to the measured ALP. Furthermore, this landmark may be utilized in new approaches for IOL calculation to enhance precision.

**Keywords:** Biometry; IOL calculation; AS-OCT

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

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**Advisor: Wallace Chamon**

**CEP Number: 86055-744**

**5. ABSTRACT (REQUIRED):**

**Title:** Trifocal intraocular lenses: astigmatism magnitude and axis for non-toric and low-powered toric correction

**Author and Co-authors:** Arthur B. van den Berg M.D Luis F. Brenner M.D Carolina Gracitelli M.D., Ph.D Roberta M. van den Berg M.D Karolinne M. Rocha M.D., Ph.D Wallace Chamon M.D

**Purpose:** To evaluate the refractive outcomes after implantation of trifocal low-powered toric and non-toric intraocular lenses (IOL) in eyes with low preoperative corneal astigmatism.

**Methods:** Consecutive eyes with low preoperative corneal astigmatism implanted with trifocal IOLs were divided into 2 groups based on toric calculations with predicted posterior corneal astigmatism: non-toric (T00 group) and low-powered toric (T20 group). The main outcome measures were the preoperative corneal astigmatism (magnitude and axis), expected residual astigmatism, postoperative refractive astigmatism, double-angle plot, and astigmatism linear distribution graph.

**Results:** 671 eyes were included (T00=468 eyes and T20=203 eyes). Six months postoperatively, there were no statistical differences between groups regarding UDVA ( $0.00 \pm 0.08$  LogMAR,  $P=0.841$ ), MRSE ( $+0.13 \pm 0.30$  D,  $P=0.869$ ) or manifest astigmatism ( $P=0.055$ ). Ninety- two percent of the eyes presented postoperative manifest astigmatism within 0.50D and a centroid error of  $0.03D @ 79 \pm 0.36D$ . The calculated expected residual astigmatism presented significant differences between groups ( $P$

**Conclusion:** The threshold for the implantation of a low-powered toric IOL varies in relation to the corneal astigmatism magnitude and axis. Due to the overlap in boundaries between non-toric and low-powered toric IOLs, we recommend employing toric calculations for all trifocal IOL cases. The selection of IOL toricity should be based on the recommendations provided by the toric calculator.

**Keywords:** Clear Lens Extraction, Cataract, Phacoemulsification, IOL Calculation, Keratometry

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**5. ABSTRACT (REQUIRED):**

**Title: ADJUVANT TREATMENTS IN CONVENTIONAL THERAPY OF GLAUCOMA**

**Author and Co-authors:** Vinicius Outi Costa Carolina Pelegrini Barbosa Gracitelli

**Purpose:** Main purpose: To assess the prevalence of non-conventional treatments in conjunction with conventional therapy in controlling glaucoma progression. Secondary purpose: To carry out an analysis of the sociodemographic profile of patients who use these adjuvant therapies or who have already researched this topic.

**Methods:** This is a cross-sectional, prospective study. One hundred patients diagnosed with glaucoma who are already undergoing conventional glaucoma treatment in the public (SUS) or private healthcare system will be included in this study. The selected patients will undergo sociodemographic and clinical data collection, in addition to being questioned about the use of alternative treatments or their interest in adjuvant treatments. For the assessment of non-conventional therapies, the following will be included: 1 - Vitamins; 2- Physical activity; 3- Meditation; 4- Yoga.

**Results:** Preliminary Results Of the 40 patients interviewed so far at the EPM glaucoma clinic (SUS), one (2.5%) reported using an alternative treatment for glaucoma not included in this study (indigenous snuff), and five (12.5%) reported having researched the subject. Additionally, 19 of the participants (47.5%) interviewed reported using at least one of the practices included in the study as an alternative treatment, although without the intention of preventing glaucoma progression.

**Conclusion:** Due to its multifactorial nature, studies increasingly show that other therapies may benefit glaucoma patients. In this study, we found a trend towards seeking other forms of treatments in addition to conventional therapies.

**Keywords:** Glaucoma; Optic neuropathy; Adjunctive treatments; Alternative therapy.

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**5. ABSTRACT (REQUIRED):**

**Title:** ANGLE CLOSURE GLAUCOMA SECONDARY TO MULTIPLE CILIARY BODY CYSTS AND INCREASED LENS VAULT

**Author and Co-authors:** Pedro Fukui Umeta, Roberto Murad Vessani

**Purpose:** To report a case of secondary angle-closure glaucoma due to mixed mechanisms involving plateau-like iris and increased lens vault

**Methods:** Case report of 1 patient with plateau iris syndrome who was found to have multiple bilateral ciliary body cysts and increased lens vault on ultrasound biomicroscopic examination

**Results:** Ultrasound biomicroscopy identified typical signs of plateau iris syndrome, but also revealed multiple ciliary body cysts and an elevated lens vault in both eyes.

**Conclusion:** Plateau-like iris secondary to iridociliary cysts is a challenging diagnosis. However, this diagnosis should be considered in patients with a narrow angle who do not respond to peripheral iridotomy. Ultrasound biomicroscopy is essential for evaluating this condition. In the pathogenesis of angle-closure glaucoma, more than one mechanism can be present, and every clinician must be aware of the multiple factors involved.

**Keywords:** secondary angle-closure glaucoma, plateau-like iris, lens vault, multiple ciliary body cysts

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**CEP Number: 04042-004**

**5. ABSTRACT (REQUIRED):**

**Title:** Glaucoma following cosmetic high-intensity ultrasound of the eyelid: a case report

**Author and Co-authors:** Bárbara Moreira Ribeiro Trindade dos Santos, Leonardo Ajuz do Prado Oliveira, Roberto Murad Vessani, Leona

**Purpose:** To report a case of elevated intraocular pressure and glaucomatous damage, as well as the management strategies used to control the disease after HIFU was applied to the upper eyelid region.

**Methods:** Review of medical records

**Results:** A 53-year-old female presented to the medical office with complaints of pain and blurred vision in both eyes following an eyelid lifting procedure using microfocused ultrasound (Liftera<sup>®</sup>,  $\phi$ ). On examination, BCVA were 20/40 OD and 20/25 OS. Initial IOPs were 40 mmHg OD and 42 mmHg OS, on topical therapy in both eyes, including Timolol 0.5%, Brimonidine 0.2%, Dorzolamide 0.2% (BID), and prednisolone acetate (QID), along with oral Acetazolamide 250 mg (QID). Slit-lamp examination showed mild conjunctival hyperemia, clear cornea, deep anterior chamber, and superior iris atrophy in both eyes. Drop-like opacifications were observed in both eyes and and posterior subcapsular cataract were observed in the right eye. Gonioscopy showed open angles to the trabecular meshwork with increased pigmentation in both eyes. Fundoscopy revealed cotton wool spots superiorly to the disc bilaterally and a cup-to-disc ratio of 0.5 OD and 0.7 OS. Ultrasound Pachymetry measured 594  $\mu\text{m}$  OD and 607  $\mu\text{m}$  OS. OCT revealed thickening of the retinal nerve fiber layer secondary to edema and inflammation OS. Automated achromatic perimetry testing demonstrated dense peripheral vision loss with preserved central vision islands. Due to inadequate IOP control in both eyes, trabeculectomy was indicated in the right eye followed by the left eye. Following the procedures, the patient maintained IOP between 10 and 14 mmHg in both eyes without the need for further medications, with BCVA of 20/30 OD and 20/20 OS.

**Conclusion:** Although rare, the ocular complications of HIFU can be dramatical. Given the proximity of the periorbital region to critical eye tissues such as the cornea, iris, and lens, inadvertent delivery of energy can result in serious complications like uveitis, cataract, transient intraocular pressure elevation and glaucoma, as observed in this case. This case emphasizes the need for careful consideration of the technique and device settings before and after performing the procedure.

**Keywords:** glaucoma, microfocused ultrasound

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Co-authors (maximum 6)  
Purpose  
Methods  
Results,  
Conclusion  
Keywords

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

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

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**CEP Number: 03069-070**

**5. ABSTRACT (REQUIRED):**

**Title:** Glaucoma secondary to angle recession: a case report

**Author and Co-authors:** Thiago Terzian Ganadjian; Diogo Fajardo Correia Landim; Jos  de Paula Barbosa Neto; Luiz Alberto Soares de Melo Junior

**Purpose:** To report an interesting case and evolution of glaucoma secondary to angle recession.

**Methods:** The patient's medical record was reviewed.

**Results:** A 46-year-old male patient, with unremarkable medical history, came to the ER complaining about pain and low vision in his right eye for the past 6 months. He denied recent trauma, but reported a history of blunt trauma by a slingshot to his right eye when he was 2-year-old. He also reported a recent external diagnosis of glaucoma OD, receiving the prescription of Timolol 0,5% BID, Brimonidine 0,2% BID and also Acetazolamide 250mg QID, which he interrupted weeks later without medical orientation. BCVA was counting fingers 20cm OD and 20/20 OS. Slit lamp exam showed a mid-midriatic iris OD and was normal OS. The IOP was 63mmHg OD and 12mmHg OS. The gonioscopy showed pigmentation of 3+ and angle recession in the superior, nasal and temporal quadrants, and ciliary band in the inferior quadrant OD; pigmentation of 2+ and ciliary body in the four quadrants OS. The funduscopy showed total cup to disc ratio associated to no visible nerve fiber layer OD, and a 0,4 cup to disc ratio with no defects to the nerve fiber layer OS. The history and the ophthalmological exam led us to the diagnosis of secondary glaucoma caused by angle recession due to blunt trauma OD. The patient was given the prescription of Timolol 0,5% BID, Brimonidine 0,2% BID and Acetazolamide 250mg QID, and cyclophotocoagulation OD was performed. The patient evolved with IOP of 45mmHg OD after 40 days of the procedure, and underwent another cyclophotocoagulation OD, evolving with IOP of 10mmHg after 2 weeks.

**Conclusion:** Angle recession is a common complication of closed-globe injuries, although only a small percentage of cases progress to glaucoma. However, angle recession glaucoma can develop even years after the trauma, emphasizing the need for long-term follow-up. Early detection and appropriate management are critical to preventing optic nerve damage and preserving visual function.

**Keywords:** Glaucoma, angle recession, cyclophotocoagulation

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

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**CEP Number: 04041-002**

**5. ABSTRACT (REQUIRED):**

**Title:** Reading performance in glaucoma patients vs control patients.

**Author and Co-authors:** Ugor Tomaz Fernandes; Andr  Hiroshi Bando; Mariana Chiba Ikeda; Tiago S. Prata; Augusto Paranhos Jr.; Carolina P. B. Gracitelli.

**Purpose:** To evaluate the eye movement and visual patterns using Bivariate Contour Ellipse Area (BCEA), in the reading performance of glaucoma patients comparing with controls.

**Methods:** This was a cross-sectional study that enrolled patients from Hospital S o Paulo with glaucoma and controls without ocular diseases. At the present, we collected the clinical history, demographic data, the complete ophthalmological exam, the Minnesota Low-Vision Reading Test (MNREAD), automated visual field 24-2 and 10-2 in the SITA-Standard strategy, biometry, pachymetry, microperimetry and optical coherence tomography (OCT) of all patients. The data was statistically analyzed using Stata 17. The study protocol was approved by the Research Ethics Boards. All patients provided written consent before commencing the study.

**Results:** Until now, we collected data from 10 healthy control patients and 6 glaucoma patients. The mean age in the control and glaucoma patients were 71.9  $\pm$  6.82 years and 68  $\pm$  6.78 years, respectively. The best corrected visual acuity (BCVA) in the control and glaucoma patients were 0.00 LogMAR and 0.08  $\pm$  0.09 LogMAR, respectively. The mean reading speed in the control and glaucoma patients were 101.87  $\pm$  27.01 words per minute (wpm) and 106.23  $\pm$  44.05 wpm, respectively. In glaucoma patients, the average mean deviation (MD) was -10.38  $\pm$  9.33 and the mean pattern standard deviation (PSD) was 8.16  $\pm$  4.24.

**Conclusion:** Probably there is a positive correlation between glaucoma severity (measured by MD) and BCEA, and then we can better understand the variables influencing the reading performance, consequently, the life quality of the patient.

**Keywords:** glaucoma; reading speed; microperimetry; ocular fixation

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**CEP Number: 81576424**

### 5. ABSTRACT (REQUIRED):

**Title:** O USO DA TRABECULOPLASTIA SELETIVA A LASER PARA CONTROLE DA PRESSÃO INTRAOCULAR EM PACIENTES COM UVEÍTE QUIESCENTE

**Author and Co-authors:** Victor Cavalcante Muricy Cristina Muccioli Roberto Murad Vessani Carlos Eduardo de Souza Luciana Peixoto dos Santos Finamor Isabela Vianello Valle

**Purpose:** Reduzir a pressão intraocular com o SLT em pacientes com hipertensão ocular ou glaucoma secundário à uveíte. 1.1. Objetivo primário Determinar a taxa de redução da pressão intraocular com o SLT em pacientes com uveíte inativa e o índice de reativação da doença com esse tratamento. 1.2. Objetivo secundário Reduzir o uso de hipotensores oculares; Identificar a prevalência de hipertensão ocular e de glaucoma secundário à uveíte; Comparar a taxa de redução da pressão intraocular com o SLT entre esses dois grupos.

**Methods:** Será necessária uma amostra de 38 olhos para que sejam identificadas diferenças de médias da pressão intraocular em seis avaliações distintas, antes da intervenção e cinco momentos pós intervenção (uma semana, um mês, três meses, seis meses e doze meses), com um poder de 85 % na Análise de Variâncias com medidas repetidas (teste F com correção de Geisser-Greenhouse) a um nível de significância de 5%. Para tanto, admitiu-se um desvio padrão das médias entre tempos de 2,21 mmHg[2] e de 10 mmHg em cada momento de avaliação.

**Results:** Redução da pressão intraocular através do SLT nos pacientes com hipertensão ocular ou glaucoma secundários à uveíte e, como consequência, diminuir o uso de hipotensores oculares. O sucesso terapêutico será definido como PIO abaixo de 18 mmHg (com redução de 30-35% em relação ao valor basal) para glaucomas iniciais e abaixo de 15 mmHg para glaucomas moderados a avançados, de acordo com o consenso publicado em 2005 pela Associação das Sociedades Internacionais de Glaucoma.

**Conclusion:** A PIO é o único e o principal fator de risco modificável para o glaucoma, sendo o ponto-chave para a definição de sucesso do tratamento clínico ou cirúrgico da doença. Há uma contraindicação relativa para o uso do SLT em pacientes com uveíte, no entanto este trabalho pretende demonstrar a segurança do procedimento em pacientes com uveíte quiescente.

**Keywords:** SLT; UVEÍTE; GLAUCOMA



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

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**CEP Number: 04020-040**

**5. ABSTRACT (REQUIRED):**

**Title:** Analysis of intraocular pressure and vascularization of the optic disc and macula after aerobic activity

**Author and Co-authors:** Glauco SÃ©rgio Avelino de Aquino, Beatriz Strauber AraÃ±jo, Filipe de Oliveira, Roberto Murad Vessani, Sung Eun Song

**Purpose:** Evaluate the correlation between the magnitude of ametropia and the structural data obtained from the vasculature of the optic nerve head and macula through optical coherence tomography angiography, and its variation between findings at rest and after aerobic exercise. Conduct a correlation analysis of intraocular pressure variations between different ametropias after aerobic exercise and, consequently, identify whether there are significant differences in the responses of the different groups.

**Methods:** Inclusion Criteria: Age between 18 and 40 years. Baseline intraocular pressure within the normal range, below 21 mmHg. Visual acuity of 20/32 or better. Sedentary for at least 3 weeks. Exclusion Criteria: History of ocular surgery. Use of medications that alter intraocular pressure (IOP). Any ocular or systemic disease. Any condition that prevents physical activity. Patients will be evaluated through visual acuity measurement, gonioscopy, ultrasonic pachymetry, autorefraction, optical biometry, oximetry, and blood pressure measurement. They will also undergo tonometry and optical coherence tomography (OCT). Subsequently, they will undergo an aerobic treadmill test, reaching 60% of their maximum heart rate. Afterward, a new optical coherence tomography (OCT) and intraocular pressure measurement will be performed.

**Results:** Applanation tonometry, choroidal thickness, retinal nerve fiber layer thickness, ganglion cell layer thickness, macular thickness, vessel density (VD), and flow index (FI) will be evaluated at rest and after exercise, as well as their variation. The data will then be analyzed according to age, sex, ametropia, magnitude of ametropia in diopters, baseline and post-exercise blood pressure, and axial length.

**Conclusion:** in progress

**Keywords:** aerobic exercise, glaucoma, intraocular pressure, optical coherence tomography

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

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**Advisor: Carolina Pelegrini Barbosa Gracitelli**

**CEP Number: 0881/2023**

**5. ABSTRACT (REQUIRED):**

**Title:** EVALUATION OF VISUAL FUNCTION IN PATIENTS WITH GLAUCOMATOUS OPTIC NEUROPATHY

**Author and Co-authors:** Bruno Henrique Vieira Escute, Carolina Pelegrini Barbosa Gracitelli, Roberto Murad Vessani, Augusto Paranhos JÃnior, Tiago dos Santos Prata, SÃrgio Henrique Teixeira

**Purpose:** To evaluate the agreement and reproducibility of the visual field of patients with glaucomatous optic neuropathy using automated perimetries and to compare the short-term fluctuation of the visual field of the data found.

**Methods:** Cross-sectional clinical study with 40 eyes of 40 individuals with glaucomatous optic neuropathy at different stages of severity. For functional evaluation will be performed with the automated perimeters AP-7000 (Kowa Co. Ltd., Tokyo, Japan), Humphrey Field Analyzer (HFA 750i, Carl Zeiss Meditec, Dublin, CA) and Octopus 600 (Haag-Streit AG, Koeniz, Switzerland). After the exams, statistical analysis will be performed to evaluate the agreement, reproducibility, and comparison of the short-term fluctuation of the visual field of the data found.

**Results:** Of the 20 subjects, 6 were male and 14 female. The mean age of the group was 66.5 ( $\hat{A}\pm 7.02$ ) years. Of the total number of individuals evaluated, 10 declared themselves white (50%), 8 brown (40%), and 2 black (10%).

**Conclusion:** It is expected to find high agreement and reproducibility and a low fluctuation of visual field points after the examinations are performed.

**Keywords:** Ophthalmology, Glaucoma, Visual Field, Visual Function

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

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**Advisor: Ivan Maynard Tavares**

**CEP Number: 45077-500**

**5. ABSTRACT (REQUIRED):**

**Title:** The effectiveness of the current clinical paradigm for the diagnosis of glaucoma

**Author and Co-authors:** Paula Alhadeff; Ivan Maynard Tavares

**Purpose:** to evaluate the effectiveness of the current clinical paradigm for the diagnosis of glaucoma

**Methods:** One eye of 70 patients suspected or with open-angle glaucoma and of 50 healthy subjects will be prospectively tested with 24-2 and 10-2 VF, macular and disc OCT cube scans and retinography. In phase 1, three glaucoma specialists and three general ophthalmologists will classify whether each patient has glaucoma based on the retinography. In phase 2, 24-2 VF will be added; and in phase 3, the ophthalmologists will have access to retinography, 24-2 VF and OCT disc scan commercial report. In phase 4, we will include 10-2 VF and OCT macular RGC+ commercial report. These results will be compared to the classifications of a customized one-page report developed by Columbia University. Three individuals trained in analyzing this report will classify the same patients. The report contains features of OCT scans with VF information. Lastly, these two methods will be compared to artificial intelligence to diagnose glaucoma.

**Results:** We haven't finished yet. The Triton OCT needs to be fixed

**Conclusion:** We haven't finished yet. The Triton OCT needs to be fixed

**Keywords:** glaucoma; OCT; visual field; retinography

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1.FIRST (PRESENTING) AUTHOR (REQUIRED):

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**CEP Number: 81220-000**

5. ABSTRACT (REQUIRED):

**Title:** Analysis of the Impact of the Modified Frailty Index (mFI-11), Optical Coherence Tomography Biomarkers, and Laboratory Exams on the Response to Intravitreal Anti-VEGF Treatment in Diabetic Macular Edema

**Author and Co-authors:** Leonardo Ajuz do Prado Oliveira Gabriel Nunes Cavalcanti Caio Vinicius Saito Regatieri

**Purpose:** Evaluate how the MFI-11 frailty score and the collected biomarkers influence the response to anti-VEGF treatment in patients with DME.

**Methods:** Medical records from the diabetic retinopathy clinic will be reviewed to collect comprehensive clinical data, including OCT imaging and laboratory exams. OCT biomarkers such as central macular thickness, hyperreflective foci, disorganization of retinal inner layers (DRIL), and subfoveal serous neuroretinal detachment will be assessed pre- and post-treatment. Patients will receive three intravitreal injections of anti-VEGF at 4 to 6-week intervals. The primary outcome will be the reduction in central macular thickness, and secondary outcomes include visual acuity improvement and the relationship between frailty (mFI-11) and treatment efficacy

**Results:** Exams and results still in progress

**Conclusion:** Understanding the impact of frailty and OCT biomarkers on the response to anti-VEGF therapy in diabetic macular edema could lead to more tailored therapeutic approaches, especially in elderly patients. This study may provide valuable insights into optimizing treatment for vulnerable populations and improving visual outcomes.

**Keywords:** Diabetic macular edema, anti-VEGF, frailty, Modified Frailty Index, optical coherence tomography, biomarkers, DRIL

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

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**CEP Number: 06982-020**

**5. ABSTRACT (REQUIRED):**

**Title:** Impact of handheld retinal fundus camera artifacts on deep learning model performance for the classification of diabetic retinopathy

**Author and Co-authors:** Costa, I. D. A, Novaes, F. C, Regatieri, C. V. S, Nakayama, L. F.

**Purpose:** The increasing prevalence of retinal diseases, particularly diabetic retinopathy (DR), has created a pressing need for effective screening and diagnostic tools, especially in low-and-middle-income countries (LMICs). In this study, we evaluated the performance of an AI-based model for DR screening using retinal fundus photos obtained from various sources, including portable cameras. We examined the impact of several factors that could introduce artifacts, such as mydriasis, dust, focus, illumination, and the presence of dark or bright areas. Our aim was to assess how these variables affect the model's ability to accurately detect DR and to discuss the implications of using portable cameras in LMICs for screening purposes.

**Methods:** This study employed a supervised machine learning approach to evaluate the performance of a deep learning model for the classification of DR using retinal images. A convolutional neural network (CNN) model was trained on the MBRSET-A Mobile Brazilian Retinal Dataset (version 1.0). Then, external validation used a separate dataset containing retinal images with varying image artifacts (e.g., focus issues, dust, dark areas, bright areas). A Chi-square test assessed the impact of different image artifacts on the model's classification performance.

**Results:** Model validation demonstrated an accuracy of 74.72%, indicating its promise for screening purposes. When artifacts were present, the model's performance was paradoxically slightly better (75.66% accuracy), likely due to the nature of the dataset. Despite this, the presence of artifacts increased both false positives (288 FP vs. 75 FP) and false negatives (65 FN vs. 19 FN).

**Conclusion:** This study demonstrated that mydriasis, focus, and artifacts significantly affect model performance. Poor focus and artifact's presence lead to increased false negatives, raising clinical concerns in a screening context where missed diagnoses could delay treatment. Artifacts contributed to an increased number of false positives and negatives, compromising the reliability of the screening model in clinical settings. Addressing image quality factors during acquisition and training could improve model robustness and reduce the likelihood of both false positives and false negatives.

**Keywords:** Disease screening; Retinal diseases; Artificial Intelligence

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**CEP Number: 63654022.**

5. ABSTRACT (REQUIRED):

**Title:** MICROPERIMETRIC EVALUATION OF TREATMENT OF CHRONIC CENTRAL SEROUS CHORIORETINOPATHY WITH TWO MICROPULSED LASER STRATEGIES

**Author and Co-authors:** João Gabriel Alexander, Pedro Leite Costa Franco, Luiz Roisman, Maurício Maia

**Purpose:** The objective of this study is to compare two micropulse laser treatment strategies, analyzing microperimetric results, pre and post treatment, in chronic cases of central serous chorioretinopathy (CSC).

**Methods:** This study is in progress. A prospective, masked, controlled and randomized study in a sample of approximately 30 patients. All laser sessions will be administered by a researcher who will not monitor or perform exams on patients during the study period. A 1:1 randomization will be applied. Inclusion criteria: patients with chronic CSC defined as symptoms of the disease for more than 3 months. Age between 20 and 60 years old. Exclusion criteria: patients with any previous treatment for CSC in the last 3 months, patients using corticosteroids and presence of subretinal neovascularization. Each patient will be followed for 6 months, with assessments at the end of the 1st, 3rd and 6th months after treatment. Macular sensitivity measured by microperimetry will be evaluated before treatment and during post-laser follow-up. Differences between quantitative variables will be analyzed using the Mann-Whitney test. The difference will be considered statistically significant when p

**Results:** In progress.

**Conclusion:** There are no studies in the literature comparing two strategies of micropulsed laser. The objective of this study, is, therefore, to compare the effectiveness of two micropulse laser treatment strategies already described in the literature, by measuring macular sensitivity with microperimetry.

**Keywords:** Central serous chorioretinopathy; micropulsed laser; microperimetry

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**5. ABSTRACT (REQUIRED):**

**Title:** Choroidal Thickness and Its Impact on Micropulse Laser Outcomes in Chronic Central Serous Chorioretinopathy

**Author and Co-authors:** Pedro Leite Costa Franco, Joãõ Gabriel Alexander, Luiz Roisman, Maurã-cio Maia

**Purpose:** The objective of this study is to compare two micropulse laser treatment strategies, analyzing choroidal thickness pre and post treatment, in chronic cases of central serous chorioretinopathy (CSC). Additionally, it seeks to assess the differences in choroidal thickness variation between cases that responded favorably to treatment and those that did not.

**Methods:** This ongoing study is a prospective, randomized, controlled, and masked trial involving approximately 30 patients. Laser treatment sessions will be conducted by a researcher who will not be involved in monitoring or performing patient assessments during the study period. Patients will be randomly assigned to treatment groups using a 1:1 randomization ratio. Inclusion criteria include patients aged 20 to 60 years with chronic central serous chorioretinopathy (CSC), defined as symptoms persisting for over 3 months. Exclusion criteria include patients who have undergone any treatment for CSC in the past 3 months, those currently using corticosteroids, and individuals with subretinal neovascularization. Each patient will be followed for 6 months, with evaluations at 1, 3, and 6 months post-treatment. Choroidal thickness measurements will be recorded prior to treatment and during follow-up. Statistical analysis of quantitative variables will be performed using the Mann-Whitney test, with significance set at p

**Results:** Pending results.

**Conclusion:** We hope, with this study, to further elucidate the relationship between pre- and post-micropulse laser treatment choroidal thickness and treatment outcomes for CSC. By comparing different micropulse laser strategies, the results are expected to provide insights into optimizing therapeutic approaches and understanding the predictive value of choroidal thickness in determining treatment efficacy for chronic CSC.

**Keywords:** Central serous chorioretinopathy; micropulsed laser; choroidal thickness

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**5. ABSTRACT (REQUIRED):**

**Title:** Unmasking Biases and Navigating Pitfalls in the Ophthalmic Artificial Intelligence Lifecycle: A Review

**Author and Co-authors:** Frederico Novaes, Justin Quion, Leo Anthony Celi, Caio Regatieri, Luis Filipe Nakayama

**Purpose:** This review aims to explore the biases and pitfalls present in the lifecycle of artificial intelligence (AI) in ophthalmology. It provides a framework that addresses challenges in AI development and deployment, offering strategies to enhance fairness, accuracy, and clinical applicability in this field.

**Methods:** The lifecycle of AI in ophthalmology is divided into seven stages: data collection, model task definition, data preprocessing and labeling, model development, model evaluation and validation, deployment, and post-deployment evaluation. For each stage, the review identifies common biases and challenges, including data imbalance, spectrum bias, improper evaluation metrics, and post-deployment issues. Examples from previous research and practical AI deployments are used to illustrate these pitfalls.

**Results:** The review highlights critical concerns at each step, such as the exclusion of marginalized populations during data collection, reliance on inaccurate evaluation metrics, and challenges in maintaining model performance after deployment. It also emphasizes the role of model shortcuts, such as using irrelevant features, which may lead to biased or flawed predictions. Notably, data leakage and evaluation biases are frequent issues that compromise the generalizability and fairness of AI models.

**Conclusion:** Bias is a recurring issue throughout the ophthalmic AI lifecycle. Addressing these biases requires collaboration between clinicians, data scientists, and stakeholders. By following a structured framework, it is possible to mitigate these risks, ensuring that AI systems are both equitable and effective in real-world clinical settings. Continuous post-deployment monitoring is critical to maintaining fairness and transparency.

**Keywords:** Artificial Intelligence, bias, AI lifecycle



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**5. ABSTRACT (REQUIRED):**

**Title:** Comparison of Analgesic Effects of Medications Before Laser Panretinal Photocoagulation for Diabetic Retinopathy

**Author and Co-authors:** Vinicius Oliveira Pesquero; Felipe PicanÃ§o Muralha; Alex Treiger Grupenmacher; Nilva Simeren Bueno Moraes; Mauricio Maia

**Purpose:** The study aims to compare different medications used to reduce pain during the panretinal photocoagulation procedure for diabetic retinopathy and to evaluate which would be the most effective and suitable for regular use in clinical practice.

**Methods:** This is characterized as a prospective, randomized, double-blind, interventional clinical trial. It will be conducted in the Retina and Vitreous Department of the Department of Ophthalmology and Visual Sciences at the Federal University of SÃ£o Paulo â€” Paulista School of Medicine, SÃ£o Paulo, Brazil, after analysis and approval by the Ethics and Research Committee. Patients: Four hundred patients from the Department of Ophthalmology and Visual Sciences will be selected, all diagnosed with diabetic retinopathy and indicated for panretinal photocoagulation in both eyes. Group Division: Patients will be divided into four groups: Group using oral Ibuprofen 400 mg and placebo eye drops (n = 100) Group using oral Dipyron 500 mg and placebo eye drops (n = 100) Group using topical Fluorometholone Acetate 0.1% eye drops and placebo tablets (n = 100) Group using topical Ketorolac Tromethamine 0.5% eye drops and placebo tablets (n = 100) All groups will serve as controls, undergoing two randomized exposures: one with an analgesic eye drop or tablet and another with placebo eye drops and tablets.

**Results:** In progress

**Conclusion:** In progress

**Keywords:** Retina; Laser Coagulation; Diabetic Retinopathy

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

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**Advisor: Caio Vinicius Regatieri**

**CEP Number: 80740-160**

**5. ABSTRACT (REQUIRED):**

**Title:** A longitudinal analysis of the efficacy and security of a new antiangiogenic drug derived from chemically modified heparin mimetics (MHep), both isolated and combined with anti-VEGF

**Author and Co-authors:** Alex Treiger Grupenmacher M.D, Bianca O. Augusto, Bruna Zancanelli Fetter, Vinicius Kniggendorf M.D, Diego Lisboa Araujo M.D, Juliana L. Dreyfuss, Pharm D. Advisor: Ph.D, Caio V. S. Regatieri M.D, P PhD

**Purpose:** To synthesize and evaluate a chemically modified (MHep) with and without bevacizumab, both in vitro and in vivo with regards to its safety and efficacy, isolated and combined with anti-VEGF.

**Methods:** In vitro assays used Rabbit Aortic Endothelial Cells (RAEC) and RPE cells (ARPE-19) to investigate cell viability, proliferation, and migration tests, comparing MHep, Bevacizumab, and combined MHep-Bevacizumab. In vivo tests were undertaken in rats, with a choroidal neovascularization M-Bevacizumab model and the injection of progressively concentrated MHep, and combined MHep and Bevacizumab.

**Results:** In vitro studies showed that the treatment of RAEC and RPE cells with MHep, Bevacizumab, and MHep-Bevacizumab didn't show cytotoxicity at any concentration tested. Furthermore, the treatment with MHep and MHep-Bevacizumab promoted a significant reduction in the proliferation of the RAEC cells without impairing ARPE-19 activity. It also observed a significant reduction in the migration of RAEC treated with MHep and MHep-Bevacizumab. In vivo studies showed a significant reduction in the MHep and MHep-Bevacizumab choroidal neovascularization (CNV) areas when compared to the control. The dose-dependent effect was not observed in all groups.

**Conclusion:** mHEP both isolated and combined with Bevacizumab showed a safe profile in vitro testing and efficacy both in vitro and in vivo. New pathways to address angiogenesis in retinal diseases are a clinical burden and the MHep may pose as proof of concept that ocular neovascular diseases must be approached more comprehensively

**Keywords:** angiogenesis, choroidal neovascularization, amd, heparin

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**Advisor: Caio Vinicius Regatieri**

**CEP Number: 05932-018**

**5. ABSTRACT (REQUIRED):**

**Title:** Optical coherence tomography angiographic evaluation of macular vessel density in diabetic macular edema after intravitreal dexamethasone implants: a prospective interventional trial

**Author and Co-authors:** Nelson C Capelanes, Fernando K Malerbi, Eduardo A Novais, Caio Vinicius S Regatieri

**Purpose:** The goal of this study was to assess macular vascular density evolution, macular thickness, and functional outcomes after intravitreal dexamethasone implants for diabetic macular edema.

**Methods:** Vascular density was evaluated with optical coherence tomography (OCT) angiography in 21 eyes. Macular thickness was evaluated with structural OCT. Visual acuity and contrast sensitivity were evaluated before and after treatment, and these functional outcomes were analyzed for association with anatomic outcomes. Macular vessel density in the superficial capillary plexus was evaluated with OCT angiography and quantified in areas with no fluid, allowing a more accurate measurement and eliminating the segmentation bias in areas with intra-retinal fluid. Such a methodology was possible by positioning the scans only in areas with no fluid before and after the implant. The absence of fluid in these areas was confirmed by three experienced evaluators using both the B-scan and the en face. Visual acuity and contrast sensitivity were evaluated before and after treatment, and these functional outcomes were analyzed for association with anatomic outcomes.

**Results:** At 30, 60, and 90 days after implantation, there was improvement in macular perfusion in areas without fluid after intravitreal dexamethasone implantation, accompanied by reduced macular thickness and improved visual acuity (P

**Conclusion:** Improved macular perfusion after treatment with intravitreal dexamethasone implantation may be associated with modulation of leukostasis, when the release of cytokines leads to capillary endothelial damage and obstruction of the micro-vasculature, leading to impaired capillary perfusion and ischemic damage. Despite the anatomical and functional findings demonstrated, further studies are needed to prove the relationship between the inflammatory mechanisms of diabetic macular edema and its relationship with macular perfusion and functional aspects.

**Keywords:** leukostasis; diabetes macular edema; OCT angiography; diabetic retinopathy; intravitreal dexamethasone

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**Advisor: Caio Vinicius Regatieri**

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**5. ABSTRACT (REQUIRED):**

**Title:** 12-Steps Teleophthalmology Service Framework

**Author and Co-authors:** Stefano Neto Jai Hyun Choi; Prof. Dr. Fernando Korn Malerbi; Prof. Dr. Vagner RogÃ©rio dos Santos; Prof. Dr. Caio Vinicius Saito Regatieri.

**Purpose:** Develop a 12-Steps Framework of Teleophthalmology Service to the Department of Ophthalmology and Visual Sciences of UNIFESP.

**Methods:** This study was approved by the Research Ethics Committee of the Federal University of SÃ£o Paulo (no. 33,842,220.7.0000.5505). Two instruments were the base of this 12-step framework: the Telehealth Programs and Services Methodological Guide and the Time-Driven Activity-Based Costing (TDABC). The first was developed in collaboration between the Brazilian Federal Government and the Oswaldo Cruz German Hospital. This instrument assisted the implementation of telehealth services in SUS (Unified Health System of Brazil). The TDABC is a gold standard microcosting method used to calculate different types of services, including health services. This study was financed in part by the CoordenaÃ§Ã£o de AperfeiÃ§amento de Pessoal de NÃvel Superior - Brasil (CAPES) - Finance Code 001

**Results:** A partnership between the Department of Ophthalmology and Visual Sciences and the Diabetes Center of UNIFESP helped the Proof of Concept (POC) of the 12-Steps Framework. Until September 24th, 2024, the teleophthalmology service did 1558 exams, 270 presented any RD alteration, and 139 patients were referred to the Retina Ambulatory.

**Conclusion:** The framework helped the structuration of the teleophthalmology service of the Diabetes Center. The exams done by this teleservice increased between 17,28% and 3150% per month. It happened because the teleophthalmology service was executed in the Diabetes Center, avoiding unnecessary displacements and costs by patients. Waiting time for being called to the specialist doctor decreased. Some patients were referred in 2 days after the exam. Before, the average time to send patients to the specialist was two years by SUS.

**Keywords:** Telemedicine; Teleophthalmology.

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Co-authors (maximum 6)  
Purpose  
Methods  
Results,  
Conclusion  
Keywords

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

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

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**Advisor: Mauricio Maia**

**CEP Number: 04078-011**

**5. ABSTRACT (REQUIRED):**

**Title:** POST SURGICAL ENDOPHTHALMITIS TREATMENT WITH ANTIBIOTICS ASSOCIATED OR NOT WITH PARS PLANA VITRECTOMY - A Randomized Clinical Trial

**Author and Co-authors:** VINICIUS CAMPOS BERGAMO, MD\*, LUIS FILIPE NAKAYAMA, MD, PhD\*, ANA LUISA HOFLING-LIMA, MD, PhD, MAURÍCIO MAIA, MD, PhD\*, NILVA SIMEREN BUENO DE MORAES, MD, PhD\*

**Purpose:** This randomized clinical trial compares PPV followed by intravitreal antibiotic injection at the end of surgery (PPV+IVAIES) versus intravitreal antibiotic injection (IVAI) alone in the management of PSE.

**Methods:** A total of 35 patients with PSE were randomized into two groups: PPV+IVAIES (n=12) and IVAI (n=23). BCVA was measured at baseline (D0) and days 7, 30, 60, and 90 post-intervention. Retreatment rates were recorded, and statistical analyses were performed using repeated measures ANOVA and other appropriate tests.

**Results:** Both groups showed significant visual improvement over time. By D7, the PPV+IVAIES group demonstrated significantly better BCVA than the IVAI group (p=0.019), a trend that persisted through D30; however, is despites better BCVA in PPV group, but it did not reach statistical different by D60 and D90 (p>0.05). Re-treatment was required in 39.1% of the IVAI group versus no necessity at the PPV+IVAIES group (p=0.015).

**Conclusion:** PPV+IVAIES was associated with significant better and faster BCVA recovery as well as lower re-treatment rates compared to IVAI alone; however, a trend of long term BCVA in PPV group was observed but it was not statistically significant at long-term. These evidences demonstrated that early surgical intervention with PPV results in benefits during the PSE management, particularly in preventing therapeutic failure. Future multicenter studies are needed to validate these findings and optimize treatment strategies for PSE.

**Keywords:** endophthalmitis, intravitreal injections, retina, vitrectomy

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

**Name: Gabriel Nunes de Figueiredo Cavalcanti - Fellow**  
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**CEP Number: 01321-001**

**5. ABSTRACT (REQUIRED):**

**Title:** Photodynamic Therapy with Indocyanine Green for the Treatment of Chronic and Persistent Central Serous Chorioretinopathy

**Author and Co-authors:** Dr. Gabriel Nunes Cavalcanti, Dr. Luiz Henrique Lima, Prof. Dr. Michel Eid Farah, Dr. Mateus Arruda Dr. Jose Augusto Cardillo, Dr. Maurício Maia, Dr. Daniel Lavinsky, Dr. Luca Bongiovanni de Miranda Gonçães

**Purpose:** This study's primary objective is to assess the safety of low-fluence photodynamic therapy by evaluating visual acuity and morphofunctional changes in the retinal pigment epithelium (RPE) using autofluorescence imaging, fluorescein angiography (FA), and optical coherence tomography (OCT). Secondary objectives include assessing mean visual acuity changes (BCVA) based on ETDRS scores, evaluating the effects on FA, indocyanine green angiography (ICGA), and microperimetry, and measuring central macular and choroidal thickness before and after treatment. The study also monitors any adverse effects during the trial.

**Methods:** This prospective, interventional, non-comparative clinical trial evaluates the efficacy of reduced-fluence indocyanine green photodynamic therapy (iPDT) in treating persistent central serous chorioretinopathy (CSC) over 12 months. Patients undergo screening, baseline, and five follow-up visits. Key tests include BCVA, OCT, FA, ICGA, and microperimetry. The iPDT treatment uses intravenous ICG dye and an 810 nm diode laser with adjusted power and duration. Inclusion criteria are patients over 18 with CSC lasting more than 4 months, while exclusion criteria involve previous eye treatments or surgeries.

**Results:** We aim to establish the safety profile of reduced-fluence treatment by assessing visual acuity and morphofunctional changes in the retinal pigment epithelium (RPE). This evaluation will focus on understanding how the treatment impacts these critical aspects of retinal health, offering insights into both efficacy and safety.

**Conclusion:** This study evaluates the safety and efficacy of reduced-fluence indocyanine green photodynamic therapy (iPDT) for treating persistent central serous chorioretinopathy (CSC). If successful, iPDT may provide a safer, more selective alternative to traditional therapies, with fewer side effects and improved outcomes for retinal health, while being cost-effective and minimally invasive.

**Keywords:** Reduced-fluence iPDT, Indocyanine green, Central serous chorioretinopathy, Retinal pigment epithelium, Optical coherence tomography, Visual acuity, Fluorescein angiography, Choroidal thickness, Photodynamic therapy, Microperimetry.

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**CEP Number: 04042-001**

**5. ABSTRACT (REQUIRED):**

**Title:** Transpupillary Macular Phototherapy for the Treatment of Chronic and Persistent Central Serous Chorioretinopathy

**Author and Co-authors:** Dr Luca Bongiovanni de Miranda Gonçalves, Dr. Ahmad Mohamad Ali Hamade, Dr. Jose Augusto Cardillo, Dr. Gabriel Nunes Cavalcanti, Dr. Michel Eid Farah, Dr. Daniel Lavinsky, Dr. Mauricio Maia, Dr. Mario Stefani

**Purpose:** In this study, the purpose is to treat patients with chronic and persistent central serous chorioretinopathy by applying diode laser therapy and to evaluate anatomical improvement through the reduction of subretinal fluid, as well as functional improvement through gains in corrected visual acuity.

**Methods:** This study is a prospective, interventional, non-comparative clinical trial designed to assess the effectiveness of Transpupillary Macular Phototherapy (TMP) in treating patients with persistent Central Serous Chorioretinopathy (CSC). The study population includes adults aged 18 or older who have been diagnosed with persistent CSC (>4 months), are in good general health and BCVA from 20/60 to 20/800, as measured by the ETDRS scale, and only one eye per patient will be treated.

**Results:** The study aims to evaluate the outcomes of Transpupillary Macular Phototherapy (TMP) for treating persistent Central Serous Chorioretinopathy (CSC) by focusing on key results across several parameters. The primary expectation is a reduction in serous retinal detachment, measurable through Optical Coherence Tomography (OCT). The treatment is anticipated to significantly decrease subretinal fluid accumulation, indicating anatomical improvement. Visual acuity is also expected to improve. Using the Snellen chart or equivalent methods, the study will measure changes in patients' vision before and after TMP treatment, aiming to demonstrate functional visual gains. Another central focus is the safety profile of TMP, specifically monitoring potential side effects or complications, such as retinal burns, scar formation, or retinal detachment. The goal is for these complications to occur at a minimal rate. Additionally, the research seeks to optimize TMP parameters.

**Conclusion:** Transpupillary macular phototherapy (TMP) is expected to demonstrate a favorable safety profile and efficacy in reducing serous retinal detachment in patients with chronic and persistent central serous chorioretinopathy.

**Keywords:** Transpupillary Macular Phototherapy (TMP); Central Serous Chorioretinopathy (CSC); Serous Retinal Detachment; Retinal Imaging Optical Coherence Tomography (OCT); Laser Therapy Parameters; Microperimetry;

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**CEP Number: 05409-002**

**5. ABSTRACT (REQUIRED):**

**Title:** Case Report: Retinal findings on Parry-Romberg Syndrome

**Author and Co-authors:** Antonio Morais da Silveira Junior, Sung Eun Watanabe, Daniel Martins Rocha, Solange Rios Salomão, Adriana Berezovsky

**Purpose:** Parry-Romberg Syndrome is a rare craniofacial disorder characterized by progressive soft tissue atrophy, mainly affecting one side of the face. Common symptoms include enophthalmos, hemiplegia, and linear scleroderma. The condition can lead to various eye complications due to changes in the orbital structure, potentially impacting eye health. Retinal findings vary widely, including vasculitis, RPE atrophy, and retinitis pigmentosa.

**Methods:** A 27-year-old female with a history of scleroderma and hemifacial atrophy came in for a routine check-up at our outpatient genetic-retina care center due to mild visual acuity impairment in her left eye. She also had mitral stenosis and coarctation of the aorta. On examination, she had enophthalmos in the left eye and asymmetric facial features. Fundoscopy revealed temporal pallor of her left optic disc, blurred margins, and whitish lesions on the periphery of both retinas.

**Results:** The patient underwent a fluorescein angiography which revealed increased fluorescence on the optic disc vessels, as well as defects in the retinal pigment epithelium (RPE) in the temporal-inferior and mid-periphery regions with no leakage. The macular OCT showed no abnormalities, but the optic nerve OCT indicated thinning of the nerve-cell layer in the temporal, nasal, and inferior regions. The visually evoked potential showed slightly reduced amplitudes, with greater response in the left eye. Additionally, her electroretinography demonstrated normal cones and rods responses in both eyes, but revealed reduced activity of ganglion cells in the left eye.

**Conclusion:** This case report discusses the complexity of Parry-Romberg syndrome by documenting ocular findings in addition to the well-known hemifacial atrophy and enophthalmos. Orbital changes may divert attention from other relevant findings that may be evident through a thorough fundus examination. Visually evoked potentials, electroretinography, and OCT can help in better understanding this condition and its pathophysiological changes.

**Keywords:** Facial Hemiatrophy; Electrophysiology; Retina



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

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**CEP Number: 04044-020**

**5. ABSTRACT (REQUIRED):**

**Title:** Masquerade Syndrome as the Initial Presentation of Peripheral T-cell Lymphoma not otherwise specified (PTCL-NOS): A Case Report

**Author and Co-authors:** Cindy Lie Tabuse, Lucas Henrique Pereira, Guilherme Macedo Souza, Alaide Fernandes Santos Pinto, Luciana Peixoto Finamor, Carlos Eduardo de Souza

**Purpose:** to report a rare case of Peripheral T-cell Lymphoma not otherwise specified (PTCL-NOS) manifesting as a masquerade syndrome at the onset.

**Methods:** Review of medical records.

**Results:** A 61-year-old male patient presented with progressive and painless low visual acuity and panuveitis associated with bilateral nasal obstruction and weight loss of 11 kilograms over a 2-month period. Upon onset, his best-corrected visual acuity was 20/150 in the right eye and counting fingers at 1 meter in the left eye. Slit-lamp biomicroscopy revealed 4+ anterior chamber reaction, non-granulomatous keratic precipitates and 2mm hypopyon in both eyes, along with elevated intraocular pressure. Fundoscopy revealed 2+ haze with no signs of vasculitis or retinitis. He also complained of severe nasal obstruction, with onset concomitant with the visual condition, refractory to antibiotic treatment. Ocular ultrasonography showed infiltrative lesions in the walls of both eyes and magnetic resonance imaging of the face and orbit demonstrated obliteration of the nasal cavities and sinuses, along with pansinusopathy attributed to the presence of a soft tissue mass. Biopsies of the nasal lesion were performed, which revealed a T-cell non-Hodgkin lymphoma, not otherwise specified. The patient was referred to Hematology for clinical staging and treatment. The patient's visual condition continued to worsen, currently with visual acuity of hand movements, and a PET-CT exam showed involvement of the myoadipose planes, the right eye globe, distal femurs, and tibias. Given the progression of the disease and poor prognosis, palliative care approaches were decided upon.

**Conclusion:** Ocular lymphomas represent a rare subset of ocular neoplasms, accounting for approximately 0.1% of all such tumors. The predominant type is non-Hodgkin lymphoma of B-cell origin, while T-cell non-Hodgkin lymphoma is less common (1-3%) and often exhibits a more aggressive clinical course. Diagnosis of Peripheral T-cell lymphoma, not otherwise specified (PTCL-NOS) is established through biopsy with immunophenotypic assessment using flow cytometry or immunohistochemistry, which demonstrates T-cell associated antigens (CD3, CD2, CD7, CD5), albeit without a distinctive pattern. First-line therapy for PTCL NOS is chemotherapy based on anthracycline-containing regimens such as CHOP or CHOEP. However, these regimens do not provide curative outcomes for the majority of patients. Prognosis of PTCL NOS is guarded, with approximately 30% of patients surviving disease-free at 24 months post-diagnosis and initiation of treatment. In conclusion, this case report underscores the importance of considering ocular lymphomas, including PTCL-NOS, as differential diagnosis of masquerade syndrome, especially in patients with atypical presentations. Early diagnosis and prompt treatment are crucial for improving outcomes in these patients.

**Keywords:** uveitis, lymphoma, masquerade syndrome, Peripheral T-cell lymphoma

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

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**CEP Number: 04633-000**

**5. ABSTRACT (REQUIRED):**

**Title:** Simultaneous atypical manifestations of ocular toxoplasmosis: case report

**Author and Co-authors:** Wakana Masu, Guilherme Macedo Souza, Carlos Eduardo de Souza, Luciana Finamor

**Purpose:** To report an unusual case of Recurrent Inner Foveal Toxoplasmic Retinitis (RIFTER) and neuroretinitis in young patient

**Methods:** Review of medical records

**Results:** A 17-year-old female patient was admitted to our emergency department complaining of decreased visual acuity in her left eye for 4 days. Best-corrected visual acuity was 20/25 in the right eye and 20/60 in the left eye. The ophthalmologic exam of right eye revealed no abnormalities. While in the left eye, the patient presented with clear conjunctiva, clear cornea, anterior chamber inflammatory reaction (+1), presence of keratic precipitates (KPs), trophic iris, and a deep formed anterior chamber. Fundoscopic of left eye showed a hyperemic and blurred optic disc, an exudative whitish focal retinal lesion adjacent to the inferior margin of the optic disc, and an abnormal macular reflex with pigment mottling. Both IgM and IgG serologies for *Toxoplasma gondii* were positive. Optical coherence tomography (OCT) of the affected eye revealed a cavitation in the foveal region involving all retinal layers, along with peripapillary subretinal fluid. This OCT-based lesion pattern was defined as Recurrent Inner Foveal Toxoplasmic Retinitis (RIFTER), an atypical presentation of toxoplasmosis characterized by a deep retinal cavitation with disruption of the inner and outer retinal layers, along with adjacent retinal necrosis. This manifestation can occur during disease recurrences or as the initial presentation, specially in patients with positive IgM serology. The treatment included oral Prednisolone and 25 mg of Pyrimethamine, with good response to treatment.

**Conclusion:** This case revealed a patient who presented with two atypical manifestations of ocular toxoplasmosis simultaneously: RIFTER and neuroretinitis. Failure to recognize these different possible clinical presentations of ocular toxoplasmosis may delay diagnosis and treatment, compromising visual prognosis.

**Keywords:** Toxoplasmosis, Recurrent Inner Foveal Toxoplasmic Retinitis, Neuroretinitis

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

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**CEP Number: 04037-000**

**5. ABSTRACT (REQUIRED):**

**Title:** Ocular manifestations as first presentation of microscopic polyangiitis

**Author and Co-authors:** Cavalcante, J.L.T.; Oliveira, B.M.; Campelo, C.M.C.; Souza, G.M.; Finamor, L.P.

**Purpose:** To report a case of microscopic polyangiitis with ocular manifestations

**Methods:** Medical record review

**Results:** A 22-year-old male patient came to our service complaining of low vision in both eyes, associated to lower limbs edema and painful bullous lesions on both ankles. Since he was 6 years old, the patient has had recurrent episodes of abdominal pain and bloody diarrhea. He also had a history of testicular pain. His past ophthalmologic history was unremarkable. Best corrected visual acuity was 20/125 in the right eye and 20/200 in the left eye. Slit lamp examination both eyes revealed clear cornea and conjunctiva, trophic iris without synechiae, anterior chamber reaction of 1+ and anterior vitreous cells of 2+. Fundus exam revealed a pattern of occlusive vasculitis. The patient was then admitted to hospital for diagnostic investigation. Laboratory tests showed: negative serologies for HIV, syphilis, a glomerular filtration rate of 50 mL/min/1.73 m<sup>2</sup>; complement levels of C3 at 140 mg/dL and C4 at 23 mg/dL (within normal limits); a non-reactive antinuclear factor; p-ANCA of 1/160; and positive anti-MPO. A biopsy of skin lesions on the lower limbs revealed leukocytoclastic vasculitis with interstitial neutrophilic dermatitis, subepithelial detachment, and necrosis of keratinocytes. The diagnosis was confirmed as ANCA-associated vasculitis (microscopic polyangiitis). The patient was treated with cyclophosphamide, methylprednisolone 1g daily for 3 days, and oral prednisone 60 mg/day in a tapering schedule. Patient is still under outpatient follow-up showing progressive improvement

**Conclusion:** ANCA-associated vasculitides represent a group of autoimmune diseases characterized by inflammation of small to medium-sized blood vessels, affecting multiple organs, including the eyes. Ocular involvement can occur in a frequency between 16 and 20% and it can affect any layer of the eye, with scleral and orbital involvement being the most common. Manifestations include necrotizing scleritis, peripheral ulcerative keratitis, uveitis, retinal vasculitis, and orbital involvement, such as infiltration of extraocular muscles. Ocular involvement may occur isolated and without detectable ANCA, preceding systemic manifestations, which highlights the critical role of the ophthalmologist in early diagnosis

**Keywords:** Microscopic Polyangiitis; Retinal vasculitis

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

**Name: Joao Victor Fernandes Fabricio - R4**  
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**CEP Number: 62022-922**

**5. ABSTRACT (REQUIRED):**

**Title:** Clinical features and epidemiological assessment of patients with Acute Retinal Necrosis.

**Author and Co-authors:** Fabricio, JoãŁo Victor. Finamor, Luciana Peixoto dos Santos. Martinho, Gabriela Tomaz. Andrade, Gabriel Costa.

**Purpose:** To evaluate significant epidemiological findings and describe the clinical outcomes of patients with NAR followed in ophthalmological reference services in Brazil.

**Methods:** This is a retrospective study of patients evaluated and diagnosed with NAR in reference hospitals in SŁo Paulo, SŁo Paulo, Brazil. Data from the medical records were collected retrospectively from the years 2017-2024, searching through the hospitalization of patients in the Ophthalmology Emergency Room and also in the Uveitis outpatient clinic during this period. Patient of both sexes diagnosed with ARN. The diagnostic criteria were based on the American Uveitis Society, which defines ARN based on the following clinical features: - One or more focus of retinal necrosis with well-defined borders located in the peripheral retina; - Rapid circumferential progression in the absence of antiviral therapy; - Occlusive vasculopathy with arterial involvement; - Prominent inflammatory reaction in both the anterior chamber and the vitreous cavity.

**Results:** In progress.

**Conclusion:** In progress.

**Keywords:** Acute retinal necrosis, Clinical Characteristics, Case series.

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Methods  
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Keywords

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

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**CEP Number: 04216-030**

**5. ABSTRACT (REQUIRED):**

**Title:** Ophthalmic Artery Pseudoaneurysm Post-Enucleation in a Patient with Self-Evisceration

**Author and Co-authors:** Sã©rgio Nakamura Junior, Vitor Dias Marins

**Purpose:** To report a case of ophthalmic artery pseudoaneurysm following enucleation in an 84-year-old patient.

**Methods:** The patient's medical records were reviewed.

**Results:** An 84-year-old patient with advanced glaucoma (no light perception in the right eye, 20/80 visual acuity in the left) presented to the ophthalmology emergency with severe, progressive right eye pain, peaking after intraocular content release 1 day prior. Examination revealed conjunctival hyperemia, two superior nasal scleral lacerations with active bleeding, and aqueous humor leakage in the right eye. Due to the patient's condition, further assessment was limited. The patient underwent right eye enucleation without complications. On the first postoperative day, the patient developed periorbital ecchymosis and moderate surgical site bleeding. The hospital stay was extended due to acute renal failure and persistent ecchymosis. On postoperative days 4 and 5, jet-like bleeding from the surgical wound occurred, stopping with compression and revealing wound dehiscence. A contrast-enhanced CT scan of the brain and orbits showed orbital fat densification, hemorrhagic foci, and a pseudoaneurysm (1.0 cm x 0.6 cm) near the right ophthalmic artery. The patient was transferred to the ICU for pseudoaneurysm embolization, resulting in occlusion of the right ophthalmic artery with no further aneurysm visualization. After re-suturing the wound, the patient was discharged, and by day 60, no further ecchymosis or bleeding occurred, with favorable wound healing.

**Conclusion:** Ophthalmic artery pseudoaneurysm is a rare condition, typically caused by trauma-induced shearing forces that create a false lumen. The pseudoaneurysm is not contained by the vessel wall but by a defect in the arterial wall, with the adventitia or surrounding soft tissue forming the outer boundary. The protective nature of orbital walls and fat makes it uncommon, though risk factors include anticoagulant use, high-energy trauma, or prior surgeries. Diagnosis relies on clinical signs such as periorbital ecchymosis, proptosis, or a pulsatile mass, and is confirmed through imaging like cranial or orbital angiography. Treatment options include neurointerventional endovascular occlusion or conservative management, as some pseudoaneurysms may spontaneously embolize within 72 hours. Early intervention helps reduce the risk of intracranial hemorrhage and mortality. Literature indicates a 0% mortality rate for surgically treated cases, though due to its rarity, more cases are needed for reliable data. Severe optic nerve damage may lead to poor visual outcomes, potentially necessitating evisceration or enucleation. Common complications post-embolization include ptosis and vasospasm. Those who do not regain vision may experience corneal edema, pain, and proptosis. Cranial nerve injuries, though typically transient, can occur after embolization or spontaneous occlusion.

**Keywords:** pseudoaneurysm, enucleation, aneurysm,

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

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**CEP Number: 04037-000**

**5. ABSTRACT (REQUIRED):**

**Title:** Analysis of infectious preseptal and orbital cellulitis cases admitted to the Eye Emergency Department at the Federal University of SÃ£o Paulo between 2022 and 2024

**Author and Co-authors:** Pereira, LH; Teixeira, LF; Manso, PG; Noia, LC

**Purpose:** Infectious orbital cellulitis is a challenging condition in ophthalmology. This research reviews the epidemiology, clinical features, diagnostic methods, treatments, and outcomes of patients treated for periorbital or orbital cellulitis at the Hospital SÃ£o Paulo emergency department over the past two years.

**Methods:** Retrospective analysis of all patients with pre-septal or orbital cellulitis treated at Hospital SÃ£o Paulo from November 2022 to September 2024).

**Results:** Fifty-three patients were treated for infectious periorbital/orbital cellulitis during the period. Among adult patients (37 patients ~ 69.8%, avg. age - 49.3 years), 86.4% had orbital cellulitis. Causes were identified in 55%, with dacryocystitis (50%) and rhinosinusitis (15%) being the most common. Most patients had no systemic comorbidities (56.7%) or prior eye issues (78.3%). Common symptoms included periorbital edema (89.1%) and local pain (45.9%). All patients received intravenous antibiotics (avg. 7.2 days), and 43% were given steroids. Two cases required surgery (abscess drainage). After discharge, 75.6% continued oral antibiotics (avg. 13.68 days). In children (17 patients, avg. age 9.58), 94.1% had post-septal cellulitis. Causes were unknown in 41%, with rhinosinusitis in 60% of identified cases. Most had no systemic comorbidities (82%) or prior eye conditions. Symptoms included periorbital edema (100%) and local pain (23.5%). All received intravenous antibiotics (avg. 8.64 days), and 76.4% had steroids. Four needed surgery due to complications. After discharge, 94.1% transitioned to oral antibiotics (avg. 17.63 days). All patients regained vision, with no deaths reported.

**Conclusion:** This study assessed the prevalence of orbital cellulitis, which prior literature suggests is higher in pediatric populations; however, our findings did not confirm this, possibly due to the demographics of our emergency department. Among adults, the mean age of infection aligned with previous reports, but rhinosinusitis was cited less frequently as the primary cause. In children, both age and etiologies matched with existing studies. Most patients received non-surgical treatment according to guidelines, with corticosteroid use more prevalent in the pediatric group.

**Keywords:** Orbital cellulitis

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**CEP Number: 04044-060**

**5. ABSTRACT (REQUIRED):**

**Title:** Evaluating the Accuracy of Patient Referral to a Quaternary Health Center for Pterygium Diagnosis and Treatment

**Author and Co-authors:** Lima Filho, Maurício P. ; Hirai, Flávio E.

**Purpose:** This research paper aims to assess the accuracy of patient referral to a quaternary health center for pterygium diagnosis and treatment. Accurate diagnosis and appropriate referral to a specialized quaternary health center are crucial for effective management of this condition. However, the reliability of patient referral to these specialized centers remains an area of concern.

**Methods:** The study will analyze data from electronic medical records to evaluate the referral accuracy of primary health centers (Unidade Básica de Saúde - UBS) pterygium cases, as well as the effectiveness of patient referrals to the specialized center.

**Results:** Results Pending

**Conclusion:** Results Pending

**Keywords:** Pterygium; Epidemiology

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

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**Advisor: Mauro Silveira de Queiroz Campos**

**CEP Number: 44775-540**

**5. ABSTRACT (REQUIRED):**

**Title:** Epidemiological statistical analysis comparing public and private care at the Ophthalmology Emergency Room in the city of São Paulo, involving Hospital São Paulo x H.Olhos.

**Author and Co-authors:** Author and Co-authors: Pedro Antonio Nogueira Filho; Caio Vinicius Saito Regatieri; Licia Cristina Vago Matieli Maidana; Advisor: Mauro Silveira De Queiroz Campos

**Purpose:** In view of the current ophthalmological medical development associated with a globalized and modern society, it is essential to collect, analyze and interpret epidemiological data that will later be added to medical knowledge through information extracted from the routine of specialized care and, consequently, using technology as a tool of health prevention (Daniel Kraft "Singularity University (US); The creation of a database that will help health is important and impactful for modern society and can directly impact the quality of life for the population (Pini Ben-Elazar "Mor Research Applications (IL); It is of fundamental importance that the data stored and referring to a medical specialty can be compiled and compared between different services so that, based on this, it is possible to carry out statistical and epidemiological analyzes that will result in identifying characteristics and patterns of those more frequent pathologies, for example. example in the routine of the Ophthalmological Emergency Room, as well as defining measures for the prevention and control of diseases and other frequent conditions that affect the eyes and vision of the population.

**Methods:** The data must be analyzed statistically, in a descriptive way, through comparative analysis, evidenced from a survey carried out initially by the Information Technology of the two different centers and later compiled, with no identification of any patient and valuing the security of the information collected and obeying the safety standards of each system and respective centers. The public epidemiological statistical analysis will have sampling from electronic medical records from digitalized physical records, referring to the São Paulo hospital storage system, with a number of patients proportional to a demonstrative sampling compatible with the number of ~ 500,000 visits accumulated on the private platform of Hospital de Olhos Paulista between 2011 and 2019. An epidemiological statistical analysis will be used, based on data stored in the electronic medical record, in a comparative way between a specialized public and a private medical service, relating information such as gender, age, visual acuity, diagnosis, ICD-10 (International Statistical Classification of Diseases and Health Related Problems) and place of origin of the patient. The work will consequently be structured and presented from a descriptive study referring to the findings analyzed from this sample.

**Results:** In progress. In the process of capturing data referring to consultations at the Ophthalmological Emergency Room of Hospital São Paulo. The private epidemiological statistical analysis will have sampling from the electronic medical records of 500,000 patients evaluated in the Ophthalmological Emergency Room of Grupo H. Olhos from 2011 to 2019 and proportional to the same period at Hospital São Paulo.

**Conclusion:** It is understood that there is a need for a comparative assessment between the private and public service in order to allow the identification of any differences between these groups regarding the incidence of eye diseases and the need for evaluation in the Emergency Room.

**Keywords:** epidemiology, emergency room, ophthalmology, statistics



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

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**CEP Number: 04038-001**

**5. ABSTRACT (REQUIRED):**

**Title:** Scleritis Etiology in a Population of Patients in The City of São Paulo.

**Author and Co-authors:** Vitor Leonardo S. B. Prata, Dra Denise de Freitas, Dra. Laura Freitas.

**Purpose:** - Identify patients with scleritis and make a propedeutic of the etiology. - Elaborate propedeutic and therapeutic protocols for patients with scleritis.

**Methods:** This is a prospective data collection study, which will take place in the Department of Ophthalmology and Visual Sciences of The Federal University of São Paulo (EPM / UNIFESP). Patients with clinical and laboratory diagnosis of scleritis that can understand and agree to sign the Inform Consent Form (ICF) will be included in the study. Patients that doesn't agree to participate in the study or refuse to sign the Inform Consent Form will be excluded. Will be included in the study patients from the Department of Ophthalmology and Visual Sciences of The Federal University of São Paulo (EPM / UNIFESP) with clinical signs and symptoms of scleritis. These patients will undergo clinical exam as well as laboratory and Imaging study. They will be treated according to the specific etiology. The data of the medical records will be uploaded to the REDCap (Research Electronic Data Capture) platform. The collected data will be analyzed using appropriate statistical software. We aim to describe the etiologies of scleritis and the percentage each of them represents in the total of cases.

**Results:** In progress

**Conclusion:** In progress

**Keywords:** Scleritis Etiology; Scleritis Epidemiology; Scleritis Diagnose

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

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**CEP Number: 50610-120**

**5. ABSTRACT (REQUIRED):**

**Title:** Validation of Eye Bank-Prepared Posterior Lamellar Corneal Tissue for Use in Endothelial Keratoplasty

**Author and Co-authors:** Marília Rocha Costa, Dr. Flávio Eduardo Hirai and Dra. Luciene Barbosa Sousa

**Purpose:** Global: - To evaluate the effect of graft preparation and preservation on endothelial cell density (ECD) and viability of Descemet membrane endothelial keratoplasty (DMEK) grafts. Specifics: - To determine endothelial cell lost magnitude after tissue preparation for Endothelial Keratoplasty; - To clarify whether donor age, death-to-retrieval time (DRT) and death-to-preservation time (DPT) as well as total preservation time affect donor cornea cell lost.

**Methods:** This is a prospective and interventionist case series. Optical corneas donated to the Eye Banking that were not approved for corneal transplantation due to clinical contraindications will be selected: donor's death from unknown causes, positive infectious serologies, active systemic infection, non-vascular or traumatic dementia, neoplasia or Down syndrome. Corneas with an endothelial count of less than 2.000 cells/mm<sup>2</sup>, preservation time of more than 14 days and donors under 40 years of age will be excluded. The selected corneas will undergo biomicroscopy, pachymetry and specular microscopy analysis. Then, the posterior lamellar graft with Endothelium and Descemet (for DMEK) will be prepared by surgeons on a learning curve (ophthalmologic residents at Escola Paulista de Medicina). The prepared tissue will be preserved in Optisol GS at 4°C. New analyses will be performed on the 1st, 7th and 14th day after preparation. The variables used will be the donor's age and sex, reason for contraindication of donation for transplantation, tissue preservation time, time between death and preservation, type of graft made, tissue transparency, endothelial cell count and pachymetry before and after graft creation. We expect to validate Eye Bank-Prepared Posterior Lamellar Corneal Tissue as viable for Endothelial Keratoplasty.

**Results:** In progress.

**Conclusion:** In progress

**Keywords:** DMEK graft; eye banking; keratoplasty; cell viability; endothelial cell density (ECD)

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**CEP Number: 01405-000**

**5. ABSTRACT (REQUIRED):**

**Title:** Evaluation of Intravascular Chemoembolization with Mitomycin C (MICE) for Corneal Neovascularization

**Author and Co-authors:** Ludmila Nascimento Pinto Silva Tulio Ruiz Eschiapati  
Camila Garcia de Souza Trancoso Flavio Hirai Luciene Barbosa De Sousa

**Purpose:** Primary Objective: To evaluate the reduction of corneal neovascularization after the chemoembolization procedure with Mitomycin C through photodocumentation and imaging exams, such as AngioOCT and Confocal Microscopy. Secondary Objectives: To evaluate the improvement of visual acuity, assess whether there is toxicity to keratocytes and endothelial cells adjacent to the vessels undergoing chemoembolization, evaluate changes in corneal and epithelial thickness after the procedure, assess whether there is a reduction in blood flow in the vascular trunk and its branches (afferent and efferent), and evaluate whether there is a reduction in the number of lipid cells.

**Methods:** This study is a prospective, interventional case series. The present study aims to offer an alternative for interventional treatment in cases refractory to the standard treatment (topical corticosteroid drops in a weekly regressive manner) as described in previous research. Intrastromal injection with Mitomycin C will be performed at a concentration of 0.4 mg/mL in a volume of 0.01 to 0.05 mL using a 1.0 cc syringe connected to a 34-gauge needle. In the preoperative and postoperative periods, patients will undergo a complete ophthalmologic examination, and corneal neovascularization will be documented through photodocumentation, Angio-OCT, and confocal microscopy.

**Results:** The performance of intravascular chemoembolization with Mitomycin C proves to be an alternative treatment for corneal neovascularization.

**Conclusion:** A new protocol for the treatment of corneal neovascularization has been developed, yielding promising results. The study was based on the use of Mitomycin-C through intravascular chemoembolization, a technique already employed in the treatment of hepatocellular carcinoma, with a mechanism of action that inhibits vascular endothelial proliferation, thereby preventing the progression of new blood vessels. The clinical results from the use of intravascular chemoembolization with Mitomycin-C, with a 1-year postoperative follow-up in the study, showed that the procedure was safe and effective in stabilizing corneal neovascularization, making it a promising alternative for the treatment of patients with this condition. After this study it is expected 50% or greater improvement or total regression of corneal neovascularization to be observed after the use of intravascular chemoembolization with Mitomycin-C.

**Keywords:** Corneal Neovascularization, Chemoembolization, Mitomycin C

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Co-authors (maximum 6)  
Purpose  
Methods  
Results,  
Conclusion  
Keywords

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

**Name: Gustavo Gabriel Zonaro - R1**  
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**CEP Number: 13033-050**

**5. ABSTRACT (REQUIRED):**

**Title:** Unilateral corneal ectasia secondary to compulsive ocular manipulation - a case report.

**Author and Co-authors:** Gustavo Gabriel Zonaro Flávio Eduardo Hirai Vitor Dias Gomes Barrios Marin

**Purpose:** To report the development of unilateral corneal ectasia in a patient with obsessive compulsive disorder presenting compulsive manipulation of the eyeball.

**Methods:** Data were collected from anamnesis and clinical ophthalmological examination, including anterior segment biomicroscopy, refraction and fundoscopy. In addition, the patient underwent additional retinography and corneal tomography examinations.

**Results:** The eye subjected to the act of compulsive manipulation presented high keratometric indexes (K1: 63.9D; K2: 72.4D; Kmax: 88.3D; Pachymetry at the thinnest point: 327µm) while the contralateral eye presented values within normal limits (K1: 39.8 D; K2 41.8D; Kmax 42.3D; Pachymetry at the thinnest point: 535µm).

**Conclusion:** Ocular manipulation is well defined in the literature and is associated with the development of corneal ectasia with a high odds ratio. In this case, it was observed, with the contralateral eye as a control, that the act of rubbing the eyes may have been the major determinant in the development of corneal ectasia despite other environmental or genetic factors possibly present.

**Keywords:** Keratoconus, Corneal ectasia, topography

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1.FIRST (PRESENTING) AUTHOR (REQUIRED):

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**CEP Number: 04043-200**

5. ABSTRACT (REQUIRED):

**Title:** Perspectives of Porcine Corneal Transplantation

**Author and Co-authors:** Heloisa Nascimento<sup>1</sup>, MD, PhD, Thaís MM Martins, PhD, Rodrigo Moreira, MD, Gabriel Barbieri, Pedro Pires, Lucimeire N Carvalho, PhD, Larissa R Rosa, Augusto Almeida, Carmen L Pessuti, MD, Michelle Araujo, PhD, Henrique Ferrer, MD, Josã AP Gomes, MD, PhD

**Purpose:** Xenotransplantation involves the transplantation, implantation, or infusion of living cells, tissues, or organs from a different animal source into a certain animal species. Various regulatory bodies are currently concerned with formulating rules to regulate this practice. Several clinical studies are being conducted to seek success in this practice, including factors such as graft type, size, immunosuppression, and compatibility between the donor and recipient. The purpose of the present study was to review the processes related to corneal xenotransplantation, and to analyze the studies that are being conducted in this field. In addition, ethical and biosafety considerations related to this subject have been addressed .

**Methods:** The methodology of this study was based on an active search in the medical literature on content related to xenotransplantation and corneal xenotransplantation. More than 100 scientific papers were found and used as reference for a review.

**Results:** Various xenotransplantation trials have been conducted, including the first pig-to-human heart xenotransplant in 2022, where a genetically modified heart was transplanted into a patient ineligible for conventional therapy. In 2023, new cardiac and kidney transplants were performed, showing preserved histological architecture and no significant rejection. Research continues, particularly involving deceased humans, to gather crucial data on viability and potential zoonotic transmission. Further studies should be conducted regarding corneal xenotransplantation.

**Conclusion:** New genetic techniques such as CRISPR-Cas9, which might eliminate the risk of possible xenozoonosis and the appearance of new immunomodulatory agents that promise to change the scenario of rejection reactions, xenotransplantation is increasingly becoming a possible alternative for several conditions. The cornea may have advantages over other organs and tissues because it is avascular, does not require systemic immunosuppressants for transplantation and poses immunological privilege.

**Keywords:** #cornea #xenotransplantation #porcine #transplantation

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**CEP Number: 04025-012**

5. ABSTRACT (REQUIRED):

**Title:** COMPARISON OF IN VIVO CONFOCAL MICROSCOPY, CORNEAL SHAVING CULTURE AND PCR FOR DIAGNOSIS OF INFECTIOUS KERATITIS, EXCLUDING ACANTHAMOEBA KERATITIS

**Author and Co-authors:** Luiza Sousa Soares; Renata Cavalcanti Portela Boro; Luciana Lopes Rocha; Ântala de Moraes Vieira Gatti; Myrna Serapião dos Santos; Maria Cecília Zorat-Yu; Talita Trevizani Rocchetti; Denise de Freitas

**Purpose:** Compare corneal scraping culture, PCR and in vivo Confocal Microscopy in the diagnosis of Infectious Keratitis, excluding Acanthamoeba keratitis

**Methods:** 60 patients who belong to the Cornea and External Diseases Outpatient Clinic at Hospital São Paulo with infectious keratitis, not suspected of Acanthamoeba infection and virgins on specific treatment for infectious keratitis (antibiotic, antifungal or antiviral) will be submitted to a keratitis infection investigation protocol, which is composed of the following exams, in this order: confocal microscopy, in order to evaluate the presence of specific changes compatible with the etiology of the infection; corneal keratitis smear performed with a Kimura spatula and deposited on slides that will be stained with iron hematoxylin or by the Giemsa method; corneal scraping cultures on blood agar, chocolate agar, sabouraud agar, thioglycollate, BHI and Acanthamoeba medium; polymerase chain reaction PCR analysis of scrapings from infectious corneal keratitis. Finally, all diagnostic methods will be tabulated and analyzed, and will be compared with positive tests for Acanthamoeba keratitis, in order to evaluate sensitivity and specificity of diagnostic methods of infectious keratitis.

**Results:** In progress.

**Conclusion:** In progress.

**Keywords:** infectious keratitis; PCR for infectious keratitis; Confocal microscopy for infectious keratitis.

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**CEP Number: 04041-052**

**5. ABSTRACT (REQUIRED):**

**Title:** The Use of Plasma in Treating Dry Eye Associated with Meibomian Gland Dysfunction

**Author and Co-authors:** Carolina Rodrigues Cunha Guimaraes Drumond, Vanessa Favero Demeda, Josã© Álvaro Pereira Gomes

**Purpose:** Meibomian gland dysfunction (MGD) is a leading cause of dry eye, affecting more than 30% of the population. MGD is typically treated with lubricants, warm compresses, eyelid hygiene, and mechanical therapies like LipiFlow and MiBo Thermo-flo. The purpose of this study is to compare the effectiveness of MiBo Thermo-flo and plasma injection in the tarsal conjunctiva and eyelid margin for treating dry eye associated with MGD.

**Methods:** Thirty-five patients diagnosed with MGD who meet the inclusion criteria will be randomly assigned to either a control group or an intervention group. A detailed analysis of each patient's tear film and meibomian glands using meibography (Idra, Essilor), as well as an ophthalmic exam and collection of meibomian gland secretions and tears, will be conducted both before treatment and three months after treatment. The control group will receive treatment with MiBo Thermo-flo, while the intervention group will be treated with Jett plasma. Each treatment will consist of four weekly sessions over the course of one month, with follow-up assessments three months after the treatment begins.

**Results:** Ongoing.

**Conclusion:** Although many treatments exist for MGD, no definitive solution has been found. Plasma procedures are commonly used in dermatology and minor surgeries. We hypothesize that using Jett plasma will improve the flow of meibomian gland secretions and, therefore, enhance the treatment of dry eye in MGD patients.

**Keywords:** Meibomian Gland Dysfunction; Jett plasma

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2. FIRST (PRESENTING) AUTHOR (REQUIRED):

**Name: Carolina Ferreira Huang - R4**  
**e-mail: [carolinafhuang@gmail.com](mailto:carolinafhuang@gmail.com)**

**CEP Number: 04038-002**

5. ABSTRACT (REQUIRED):

**Title:** Clinical and tomographic effects of peripheral corneal crosslinking in patients with previous keratoplasty for keratoconus

**Author and Co-authors:** Carolina Ferreira Huang, Mauro Campos, Luciene Barbosa de Sousa

**Purpose:** Assess the progression of corneal alterations in patients with keratoconus who underwent corneal transplantation followed by peripheral collagen crosslinking compared to patients who underwent only corneal transplantation.

**Methods:** A total of 20 patients with keratoconus in the late postoperative phase of corneal transplantation for visual rehabilitation will be included. Ten patients will undergo peripheral corneal crosslinking while 10 will only be clinically monitored. The corneal crosslinking procedure will be performed following an accelerated protocol with initial epithelial debridement performed on an annular, peripheral area with an external diameter of 10 mm and an internal diameter of 8 mm. The central area of the transplant will be protected from radiation using filter paper with a diameter of 7 mm. All patients will have their visual acuity assessed according to the ETDRS chart at 1, 3, and 6 months post-procedure and will undergo anterior segment biomicroscopy, photodocumentation, subjective dynamic refraction, corneal tomography and Anterior segment tomography. Additionally, corneal impression cytology (with emphasis on the limbal region) will be conducted before and 6 months after the procedure to assess for signs of limbal failure secondary to the procedure. All patients in the control group will undergo impression cytology at the time of inclusion in the study and 6 months later.

**Results:** In progress

**Conclusion:** In progress

**Keywords:** Peripheral corneal crosslinking, keratoconus, corneal transplantation



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

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**CEP Number: 04039-031**

**5. ABSTRACT (REQUIRED):**

**Title:** Rates and types of complications during and after intrastromal ring implantation by surgeons in training

**Author and Co-authors:** Vitor Dias Gomes Barrios Marin Bernardo Ferreira Rodrigues Caldas Marcelo Brancalhão Tojar Mauro Silveira de Queiroz Campos

**Purpose:** To evaluate the rates and characterize the types of complications during and after intrastromal ring implantation surgery by surgeons in training.

**Methods:** This is a retrospective descriptive study, based on the review of medical records of patients who underwent intrastromal ring implantation surgery. The study will be carried out at Hospital São Paulo II, where the medical records of patients who underwent intrastromal ring implantation are available. The study population will be composed of all patients who underwent intrastromal ring implantation surgery at the Department of Ophthalmology and Visual Sciences of the Federal University of São Paulo (EPM/UNIFESP) between May 2019 and May 2024 by ophthalmologist surgeons who are in the first year of ring implant training. The exclusion criteria are: patients who did not complete the minimum postoperative follow-up of 1 month; patients with incomplete medical records or insufficient clinical data; patients who underwent other concomitant surgical procedures in the eyes, which may interfere with the evaluation of the results of the intrastromal ring. Data will be extracted from medical records and organized into standardized spreadsheets, ensuring the confidentiality of patients' personal and clinical information. The collected data will be analyzed using appropriate statistical software (such as SPSS or R).

**Results:** Awaits analysis by the ethics committee

**Conclusion:** Awaits analysis by the ethics committee

**Keywords:** intrastromal ring, surgical complications

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**Name: Bernardo Ferreira Rodrigues Caldas - R4**  
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**CEP Number: 04039-001**

**5. ABSTRACT (REQUIRED):**

**Title:** Visual outcome of patients undergoing intrastromal ring implantation by surgeons in training

**Author and Co-authors:** Bernardo Ferreira Rodrigues Caldas Vitor Dias Gomes Barrios Marin, Marcelo Brancalhão Tojar, Mauro Silveira de Queiroz Campos

**Purpose:** To evaluate the visual outcome in patients undergoing intrastromal ring implant surgery by surgeons in training

**Methods:** This is a retrospective descriptive study based on the analysis of medical records of patients who underwent intrastromal ring implantation surgery. The study will be conducted at Hospital SÃ£o Paulo II, where the medical records of these patients are stored. The study population will include all patients who had intrastromal ring implantation surgery at the Department of Ophthalmology and Visual Sciences at the Federal University of SÃ£o Paulo (EPM/UNIFESP) between May 2019 and May 2024, performed by ophthalmologists in their first year of training in ring implantation. Exclusion criteria include: - Patients who did not complete at least one month of postoperative follow-up - Those with incomplete medical records or insufficient clinical information. - Patients who underwent other concurrent eye surgeries that may affect the evaluation of the intrastromal ring outcomes. Data will be collected from medical records and organized into standardized spreadsheets, with strict measures to protect the confidentiality of patients' personal and clinical details. The data will be analyzed using appropriate statistical tools, such as SPSS or R.

**Results:** Awaits analysis by the ethics committee

**Conclusion:** Awaits analysis by the ethics committee

**Keywords:** Intrastromal ring, visual outcome, surgeons in training

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

**Name: João Victor Borges Gomes - R4**  
**e-mail: [gomes.jvb@gmail.com](mailto:gomes.jvb@gmail.com)**

**CEP Number: 02152-022**

**5. ABSTRACT (REQUIRED):**

**Title:** Ocular Allergy: Examining Clinical Aspects and Quality of Life Outcomes

**Author and Co-authors:** GOMES, J.V.B; MARINO, L.M.; WANDALSEN, G.F.; SANTOS, M.S.

**Purpose:** Ocular allergy is a term used to describe a heterogeneous group of pathologies affecting the ocular surface. They are typically associated with hypersensitivity reactions. The most prevalent clinical forms include allergic conjunctivitis (AC), either in its seasonal or perennial form, and keratoconjunctivitis (KC), whether it is vernal (VKC) or atopic (AKC). The diagnosis is clinical and other allergic conditions may be associated. The aim of this study is to describe clinical aspects involved in both forms and assess the impact of the disease on quality of life.

**Methods:** Multicenter cross-sectional study collecting clinical data from 123 patients (5-18 years old) diagnosed with OA followed up in allergy and ophthalmology reference services, after approval by the Research Ethics Committee. The impact of OA on patients' quality of life was assessed using the EQ-5D visual analogue scale, which determines a score for their health (0 to 100) in asymptomatic moments and during exacerbations. Patients diagnosed with keratoconjunctivitis also underwent an ophthalmological evaluation.

**Results:** 64% of patients were male and the average age was 12 years. 77 patients were diagnosed with AC and 46 with KC. 89% of patients were diagnosed with allergic rhinitis, 48% with asthma and 56% with atopic dermatitis. The most intense ocular symptoms in both groups were itching and hyperemia. For therapeutic control, 83% of KC were using lubricating eye drops and 76% of multiple action topical drugs versus 49 and 44% of AC, respectively (p

**Conclusion:** Disease control is essential, as periods of exacerbation lead to a reduction in quality of life in both forms of ocular allergy. KC patients required more intensive treatment, including immunosuppressants. Additionally, 50% of KC patients had corneal complications, with some developing keratoconus and glaucoma.

**Keywords:** Allergic conjunctivitis; Allergic keratoconjunctivitis; Ocular allergy; Quality of life

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Co-authors (maximum 6)  
Purpose  
Methods  
Results,  
Conclusion  
Keywords

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

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**CEP Number: 00000-000**

**5. ABSTRACT (REQUIRED):**

**Title:** EXPERIMENTAL EVALUATION OF INSULIN EYE DROPS ON CELL HEALING

**Author and Co-authors:** Mariana Xavier Araujo de Oliveira; Maria Emília Xavier dos Santos Araujo, Josã© Ilvaro Gomes Pereira

**Purpose:** Primary objective: to evaluate the action of insulin on corneal healing. Secondary objective: To evaluate the action of insulin at different concentrations.

**Methods:** The study will be conducted by the Laboratory and Advanced Center of Ocular Surface and carried out by the sector of Ocular External Diseases and Cornea of the Department of Ophthalmology and Visual Sciences of the Federal University of Sã£o Paulo. After the necessary confluence of the cells in all the wells, the cells will be trypsinized and re-cultured in plates containing 12 wells. After adherence and the necessary confluence, a direct linear lesion will be made using a 200uL tip and under a stereomicroscope, by removing cells that are in a monolayer in the culture. The wells will then be washed twice with PBS to remove non-adherent cells. The area of the lesion, as well as cell viability, will be visualized by capturing images using a device attached to the microscope with a camera, at different stages of healing. The cells in culture will be treated according to the groups described, with 1 ml of basal SHERM culture medium (without SBF), and after 24h and 48h a further 0.5mL of fresh medium will be added. Cells grown in basal culture medium containing SBF will be used for the control group. The progression of wound healing will then be assessed at the times described above. The cells in culture will be divided into five groups according to the treatment: Control: using eye drops; and insulin eye drops at a concentration of 01 IU/mL, 25 IU/mL, 50 IU/mL, 100 IU/mL, respectively.

**Results:** In Progress.

**Conclusion:** In progress.

**Keywords:** insulin eye drops, ocular surface, persistent epithelial defects, corneal defects

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

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**CEP Number: 4001130**

**5. ABSTRACT (REQUIRED):**

**Title:** Seasonal trending of Acanthamoeba keratitis in a reference service

**Author and Co-authors:** Guilherme Niciunovas, Celso de Souza Dias JÃºnior, Maria CecÃlia Zorat Yu, FlÃ¡vio Eduardo Hirai, Luciana Lopes Rocha, Larissa Fagundes, Denise de Freitas

**Purpose:** Acanthamoeba keratitis is a severe corneal infection that was first described in 1974. Studies have demonstrated a seasonal variation in the incidence of keratitis due to Acanthamoeba related to the increased concentration of free-living Acanthamoeba in water during the warmer seasons. The identification of seasonality in Acanthamoeba keratitis could allow the development of preventive actions against this serious infection, in addition to better planning of the use of public financial resources since the affected patients often need constant outpatient visits and eventually some procedures such as microbiology exams, histopathological examination and even corneal transplantation

**Methods:** Retrospective study, with data collection from LOFT, UNIFESP. After analyzing the results of microbiology tests performed from patient corneas, the positive results for AK from January 2000 to December 2022 were considered. Demographic data (sex and age) and date of collection of the test were analyzed. For patients with more than one positive result for the same eye, only the first test was considered. A comparison of stratified data was performed to identify seasonality over the years, months, weeks and also by seasons of the year. To test whether there was a seasonal trend in the sample, a linear regression model was constructed with the variables and the value of p

**Results:** Among the 3.656 tests requested for Acanthamoeba, 702 had a positive result (19.2% of positivity), among which 561 were obtained from a corneal scrape (141 tests were excluded). The 561 positive tests represent 475 eyes (since some eyes were collected more than once) and 17 patients presented bilateral condition, totaling 458 patients. Regarding gender, 298 (65.0%) were female and 160 (35.0%) were male. The age varied between 13 to 84 years old with an average of 34.37 years and the following frequency: 13-24 yo (132), 25-34 yo (163), 35-44 yo (82), 45-54 yo (38), 55-64 yo (19), 65-74 yo (16), 75-84 yo (08). Analysis revealed an uneven distribution of AK with peaks in January (35 cases), May (35 cases) and August (37 cases)

**Conclusion:** It was not possible to establish a seasonality pattern for Acanthamoeba keratitis.

**Keywords:** Acanthamoeba; keratitis

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

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**Advisor: Denise de Freitas**

**CEP Number: 09040-040**

**5. ABSTRACT (REQUIRED):**

**Title:** EVALUATION OF PREDISPOSING FACTORS FOR ACANTHAMOEBA KERATITIS IN CONTACT LENS WEARERS

**Author and Co-authors:** Itala de M. V. Gatti, Luciana Lopes Rocha, Renata Portella, Reinan do N. Araújo, João Lucas Benício Alves, Larissa F. Pinto, Luiz Antônio Vieira, Denise de Freitas.

**Purpose:** To evaluate the risk factors related to Acanthamoeba keratitis in contact lens wearers and to collect epidemiological data on these patients to draw up a sociodemographic profile and compare it with data reviewed in the literature. At the end of the study, a manual of good practices related to the use of contact lenses will be drawn up to raise awareness among the population and, consequently, reduce the incidence of this disease.

**Methods:** This is a case-control study that will be carried out using a questionnaire (physical and/or virtual). The cases are contact lens wearers diagnosed with Acanthamoeba keratitis from the External Eye Diseases and Cornea Department at the Escola Paulista de Medicina, Hospital São Paulo, UNIFESP. All of them had their diagnosis confirmed by culture, PCR and/or confocal microscopy. The controls are individuals who do not have the disease, who use the same type of contact lens and who come from the same city as the patient. If possible, they should be from the same social circle as the patient in question. Soft, rigid and scleral contact lens wearers will be included in this study. Each participant will receive an invitation to the study by SMS or WhatsApp message. After accepting, they will receive an individual, non-transferable password and a link (<https://questionario.ofthalmodapaulista.com.br/lc/>) which will give them access to the informed consent form and the questionnaire.

**Results:** Research in the data collection phase. No results are available.

**Conclusion:** Research in the data collection phase. No conclusions are available.

**Keywords:** Acanthamoeba; Keratitis; contact lenses

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

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**Advisor: Denise de Freitas**

**CEP Number: 02021-500**

**5. ABSTRACT (REQUIRED):**

**Title:** Cyst density and morphological assessment in patients with keratitis caused by Acanthamoeba spp. by In Vivo Confocal Microscopy (IVCM) after 6 months on topical treatment.

**Author and Co-authors:** Luiz Guilherme Ito da Cruz; Tais Hitomi Wakamatsu; Luiz Vieira; Denise de Freitas

**Purpose:** Incorrect use of contact lenses is a predisposing factor for keratitis caused by Acanthamoeba spp., a protozoan found easily in bodies of water. The use of In Vivo Confocal Microscopy (IVCM) allows the identification of Acanthamoeba in keratitis, presenting itself as hyper-reflective ovoid structures. This study aims to evaluate cystic morphology and density through IVCM and correlate it with clinical assessment throughout 6 months on topical treatment.

**Methods:** 28 patients aged 18 to 80 years without previous surgery or complications and with Acanthamoeba keratitis confirmed in IVCM were evaluated. The HRT3 tomograph with Rostock module was used to evaluate the morphological changes of the cornea and quantify the cysts in the software itself in a semi-automated process.

**Results:** 34 eyes from 28 patients were included in this study. The mean age of this group was 34.4 years (sd 10.9 yrs) and 17 were male (60 percent). In those patients, 14 were negative for Acanthamoeba spp. in scraping smear examination and 10 were positive. 12 eyes had light cyst density (less than 10 cysts/scan), 13 with mild cyst density (11-50 cysts/scan) and 8 eyes with severe cyst density (more than 51 cysts/scan), measured at the most dense scan at the exam. The mean acanthamoeba cysts density at the first visit in our service were 314 cysts/mm<sup>2</sup>. The cysts density decreased after 3 months on treatment (184,8 cysts/mm<sup>2</sup>) and lowered at 6 months (117,6 cysts/mm<sup>2</sup>). The cysts density decreased in all groups at different rates: light (-20,4 cysts/mm<sup>2</sup>/month), mild (-26,7 cysts/mm<sup>2</sup>/month) and severe (-51,3 cysts/mm<sup>2</sup>/month).

**Conclusion:** Therefore, IVCM is a valuable tool for detection, assessment of severity for Acanthamoeba keratitis and success of treatment predictability.

**Keywords:** keratitis; acanthamoeba; ivcm

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

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**Advisor: Denise de Freitas**

**CEP Number: 86055744**

**5. ABSTRACT (REQUIRED):**

**Title:** Prediction of the small aperture intraocular lens on visual acuity in patients with keratoconus

**Author and Co-authors:** Roberta M. van den Berg, Arthur van den Berg, Karolinne Maia Rocha, Stephen D. Klyce, Denise de Freitas

**Purpose:** To investigate the impact of corneal higher-order aberrations (HOAs) on predicted corrected distance visual acuity (CDVA) in patients with keratoconus at varying simulated pupil apertures.

**Methods:** : Fifty-six eyes with keratoconus were examined using Scheimpflug tomography (Pentacam® HR) during routine examinations prior to medical intervention. The severity of keratoconus was graded using the Amsler-Krumeich classification. Zernike analysis was used to obtain total corneal surface aberrations using simulated pupil diameters of 6-, 4-, and 2 mm. These data were extrapolated to obtain the total RMS HOAs for a 1.6 mm simulated pupil to evaluate the potential effect of a small aperture intraocular lens (IC-8® Aphera®, B&L). Correlation analysis was used to study the impact and relative contributions of HOAs on CDVA. Convolution of HOAs from corneal topography (OPD-Scan III, Nidek) provided a clinical method to predict CDVA with different simulated pupil sizes in individual corneas with irregular astigmatism.

**Results:** As expected, there were statistically significant positive correlations between photopic CDVA (LogMAR) and the magnitude of total and individual (coma, spherical aberration, and trefoil) HOAs in this cohort of keratoconus subjects. The HOAs measured with the simulated pupil diameters were fit with a second order polynomial extrapolated to the 1.6 mm corneal plane diameter expected with the small aperture IOL. The average RMS value for the HOAs expected for a 1.6 mm aperture was 0.12 µm, which is equivalent to the total HOAs in normal eyes with a 4 mm pupil. Successive improvement in CDVA from mesopic to photopic to 1.6 mm pupil sizes were demonstrated with the OPD-Scan. A keratoconus case with the IOL confirms the improvement in vision due to the pinhole effect.

**Conclusion:** The small aperture IOL is expected to markedly reduce aberrations in keratoconus patients up to Amsler-Krumeich class 4 severity to levels consistent with the levels seen in healthy patients. Convolution of corneal HO aberrations with the ETDRS chart provides a useful simulation of the impact of pinhole optics on the resolution and quality of best corrected vision in aberrated eyes such as keratoconics.

**Keywords:** Keratoconus, pinhole optics, Zernike analysis, high-order aberration, low-order aberration.



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

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**Advisor: Mauro Silveira de Queiroz Campos**

**CEP Number: 013713-27**

**5. ABSTRACT (REQUIRED):**

**Title:** Adesão de isolados de Acanthamoeba spp. a lentes de contato após tratamento por eletroporação

**Author and Co-authors:** Prof. Dr. Mauro Silveira de Queiroz Campos Prof. Dra. Denise de Freitas PG1 Raphael Barcelos Palloma Santiago Prates Pessoa Larissa Fagundes Pinto

**Purpose:** Avaliar se um eletroquímico (eletroporação) é capaz de interferir na aderência de trofozoítos e cistos de Acanthamoeba polyphaga à superfície de diferentes lentes de contato (LC).

**Methods:** Examinar por Microscopia Eletrônica de Varredura o efeito do eletroquímico na parede/membrana do isolado A. polyphaga e sua aderência à superfície de CL, Examinar por Microscopia de Força Atômica o nível de aderência de isolado A. polyphaga à superfície de CL, antes e depois de ter sido eletroporado, e também o efeito do eletroquímico na parede/membrana do isolado em questão. O eletroquímico (eletroporação) consiste na aplicação de campos elétricos que alteram temporariamente a permeabilidade e a condutividade da membrana plasmática de células biológicas, permitindo a permeação de moléculas e possivelmente gerando danos definitivos à membrana/parede de trofozoítos e cistos de Acanthamoeba, o que eliminaria essas espécies em um curto período de tempo. Este estudo será realizado no CEPA (Centro de Pesquisas Avançadas em Acanthamoeba) do Departamento de Oftalmologia da Universidade Federal de São Paulo (UNIFESP) em convênio com o Laboratório Nacional de Nanotecnologia (LNNano).

**Results:** As padronizações, experimentos e resultados estão em andamento.

**Conclusion:** Embora estudos anteriores tenham demonstrado a capacidade de Acanthamoeba aderir à superfície de LC, pouco se sabe sobre suas propriedades de adesão em nível nanomolecular, em particular os receptores específicos utilizados pelos isolados de Acanthamoeba para aderir à superfície de CL. Espera-se que este estudo leve a uma maior compreensão e elucidação dos mecanismos moleculares de adesão realizados pelo isolado ATCC 30461 (Acanthamoeba polyphaga), em adesão a diferentes modelos de AC e após ter passado pelo processo eletroquímico, elucidando o mecanismo ideal para desmantelamento, em particular, da parede celular dos cistos deste isolado, o que, devido à sua configuração como forma de resistência, pode ser o caminho mais viável para métodos de sanitização mais eficazes para prevenção da contaminação de CL.

**Keywords:** Acanthamoeba; lentes de contato; adesão; eletroporação.

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

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**CEP Number: 04037-000**

**5. ABSTRACT (REQUIRED):**

**Title:** Cataract Screening using Eyer 2 Device at the Cataract Division of UNIFESP

**Author and Co-authors:** Hugo Xavier Rocha Filho; Daniel de Boer; Rafael Kobayashi

**Purpose:** Cataract Screening using Eyer 2 Device at the Cataract Division of UNIFESP

**Methods:** The study will be conducted at the Cataract Outpatient Clinic of UNIFESP, where we will deploy the Eyer 2 device for photodocumentation of the anterior segment of patients referred to our clinic. The project will follow these steps: Patient Recruitment: We will recruit patients presenting for consultation at the outpatient clinic who have been referred via the Centralized Regulation of Health Services (CROSS). Informed consent will be obtained from all participants. Image Capture: Using the Eyer 2 device, we will capture high-resolution images of the anterior segment of each patient's eye prior to the clinical consultation. Data Annotation: After the consultation, clinicians will determine whether the patient has cataracts requiring surgical intervention. This clinical outcome will serve as the ground truth for the AI training dataset. AI Training: The collected images, along with their corresponding clinical outcomes, will be used to train a machine learning algorithm to detect cataracts with surgical indications. We will implement standard image processing techniques and machine learning models, ensuring robustness in various lighting and patient conditions. Validation: The AI model's performance will be validated using a separate dataset of images, measuring sensitivity, specificity, and overall accuracy in identifying cataracts that warrant surgical intervention.

**Results:** We anticipate that the Eyer 2 device, coupled with AI analysis, will enhance the early detection of cataracts in our target population. We expect to achieve a diagnostic accuracy of over 85%, with sensitivity and specificity rates supporting effective screening practices. By improving the identification of patients in need of surgical intervention, we aim to reduce wait times and facilitate timely treatment, ultimately enhancing patient outcomes.

**Conclusion:** By training the AI to recognize cataracts from photographic documentation, we hope to establish a model for streamlined patient evaluation that could be replicated in other health care settings. Ultimately, this initiative aims to improve access to eye care services and reduce the burden of cataracts in underserved populations.

**Keywords:** Cataract; screening

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**FORMAT:**

**Abstract should contain:**

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

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

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

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**CEP Number: 01455-070**

**5. ABSTRACT (REQUIRED):**

**Title:** Validation of a Cost-Effective Software for Objective Feedback of Capsulorhexis

**Author and Co-authors:** Arnaldo Roizenblatt Felipe Taguchi Wallace Chamon

**Purpose:** To evaluate geometric parameters of capsulorhexis made in synthetic surgical simulators using a computer program developed specifically for this purpose.

**Methods:** Synthetic simulators built with different inorganic materials (plastic, silicone, hydrogel, etc.) will be used exclusively. The study will be carried out outside the premises of Hospital SÃ£o Paulo, at the Experimental Surgery Center of the Department of Ophthalmology and Visual Sciences of EPM "UNIFESP. After signing the ICF, the study participants (EPM students and ophthalmic surgeons) will perform the traditional maneuvers of the surgical step studied (capsulorhexis). At the end of each simulation, an anonymized photographic record of the complete maneuver will be made and evaluated by a computer program that will measure the objective variables of the capsulorhexis maneuver (diameter, circularity, image centrality) of each of the photos. Such objective data will be compared with each other as a way to know if the algorithm is able to differentiate experienced surgeons from participants unfamiliar with the phacoemulsification technique.

**Results:** We expect with the present study to determine the accuracy of a smartphone app-based tool for evaluating capsulorhexis.

**Conclusion:** While it is understandable that a resident cannot be expected to perform more than 400 cases about three to four times the average resident case load (17) surgical simulators can develop maneuvers that would otherwise be difficult to perform at high volume in the operating room. (19)

**Keywords:** capsulorhexis, surgical simulation, cataract surgery

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**(CA) CATARACT**

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

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**CEP Number: 4037003**

**5. ABSTRACT (REQUIRED):**

**Title:** A Randomized Clinical Trial Comparing 4mg Single Subtenon Triamcinolone Acetate Injection and Standard Topical Corticosteroid Regimen in Cataract Surgery Recovery

**Author and Co-authors:** Pedro F Gusmão; Flavio E Hirai; Richard Y Hida.

**Purpose:** This study aims to evaluate the effectiveness of a single subtenon triamcinolone injection versus the standard prednisolone acetate 1% eye drops in controlling postoperative inflammation, macular edema, and intraocular pressure safety profile following uneventful cataract surgery.

**Methods:** A prospective, double-masked, randomized clinical trial will be conducted with one hundred patients, involving bilateral surgeries for each participant. One eye of each participant will be randomly assigned to receive the standard corticosteroid regimen, while the other eye receives subconjunctival triamcinolone. All patients will receive antibiotic eye drops for 7 days. Depending on the group assignment for each eye, the patient will administer either placebo eye drops or topical prednisolone acetate. The eye drops are meticulously prepared to ensure that both the patient and the examiner remain masked to the treatment allocation. Postoperative assessments are carried out by an evaluator distinct from the surgeon, who remains unaware of the treatment administered to each eye. Outcome measures included the assessment of anterior chamber reaction, macular edema, and intraocular pressure. Patients will be scheduled for follow-up visits on postoperative days 1, 7, 14, 30, 60, and 90, during which they underwent comprehensive clinical evaluations. If deemed necessary, Optical Coherence Tomography (OCT) are available at every visit.

**Results:** Preliminary findings suggest that the outcomes of our study should align with previously published data, indicating a favorable response to the interventions. We anticipate that the final analysis will confirm these trends, contributing valuable insights to the existing literature on postoperative management in cataract surgery.

**Conclusion:** Subconjunctival triamcinolone is suggested as a viable alternative to the standard corticosteroid regimen, offering similar control of inflammation and macular edema, with potential benefits in simplifying postoperative care safety. The current study aims to validate these findings in the population treated by the Hospital Sao Paulo, providing further evidence for its use in clinical practice. Further analysis is needed for long-term outcomes.

**Keywords:** Subtenon triamcinolone acetate, corticosteroids, cataract surgery, inflammation, prednisolone acetate, macular edema, intraocular pressure, randomized clinical trial

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

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**CEP Number: 4041002**

**5. ABSTRACT (REQUIRED):**

**Title:** Decentering in scleral contact lenses: a cross-sectional study

**Author and Co-authors:** Luiz Formentin, Yandely Chihuantito Choquechambi, Fernando Max Alves Ferreira

**Purpose:** To study the pattern of scleral contact lens decentration as well as corneal factors potentially associated with this behavior

**Methods:** To evaluate some corneal characteristics (corneal thickness, Kmax, corneal profile) of patients treated at a contact lens reference center in the city of São Paulo whose lens selected for use is of the scleral type and who have had decentering during adaptation. The corneal information will be obtained from a tomography exam.

**Results:** In progress

**Conclusion:** In progress

**Keywords:** Decentering; scleral contact lenses; irregular cornea

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

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**Advisor: Denise de Freitas**

**CEP Number: 00000-000**

**5. ABSTRACT (REQUIRED):**

**Title:** A systematic review of observational studies on the use, maintenance and care of contact lenses.

**Author and Co-authors:** Helena Maria Costa Oliveira, Denise de Freitas, C sar Lipener

**Purpose:** General objective: to identify good practices for the use, maintenance and care of contact lenses. Specific objective: create a manual that allows the user to learn and review these guidelines.

**Methods:** A systematic review of observational studies on the use, maintenance and care of contact lenses for optical, aesthetic, cosmetic and therapeutic purposes will be carried out. Search strategy to identify studies: electronic research will be used in the following databases   PubMed Central /Medline, National Library of Medicine   National Institutes of Health, United States of America (USA), Latin American and Caribbean Literature in Sciences of Health (LILACS), The Cochrane Library and Elsevier Biomedical Database (EMBASE ), updated in month and year. Selection of articles: The studies will be selected by two authors independently from a list of articles resulting from the search strategy. A third evaluator will act as arbitrator of this process to define whether or not to include the study. Inclusion and exclusion criteria: It was planned to include observational studies that related the contact lens and its use and care. For this process, there will be no restrictions on date of publication. Data extraction

**Results:** The studies selected for this systematic review present in their results safe practices for the use of contact lenses, as well as how user education can be conducted to reduce the risk of complications over time.

**Conclusion:** The studies selected for this systematic review present in their results safe practices for the use of contact lenses, as well as how user education can be conducted to reduce the risk of complications over time.

**Keywords:** Compliance; Complications; Contact lenses; Education; Microbial keratitis, Contact lens solutions; Deposits; Efficacy; Follow-up; Infections; Maintenance; Surveillance; Tolerance; Compliance; Contact lenses; Hygiene; Patient education.

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

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

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**Advisor: Paulo Schor**

**CEP Number: 03332-800**

**5. ABSTRACT (REQUIRED):**

**Title:** Scleral contact lenses in normal corneas: is it possible to improve visual performance?

**Author and Co-authors:** Cristina Cagliari, Paulo Schor

**Purpose:** Assessment of visual performance of healthy eyes during scleral contact lens use.

**Methods:** Scleral contact lenses (ScCLs) were fitted in 7 participants, evaluated in 4 visits over 45 consecutive days. Reading speed tests were performed with the internationally validated MNREAD-P charts and with validated texts developed by UNIFESP Department of Speech Therapy. At the end of the study period, the participants were interviewed individually and answered the 8-item Contact Lens Dry Eye Questionnaire (CLDEQ-8).

**Results:** For MNREAD-P charts, the reading speed was higher during ScCL wear in 85.7% of participants. A similar result was obtained for the reading of validated texts. The interviews revealed important factors, such as initial difficulty in handling ScCLs, improved handling over the weeks, greater eye comfort at the end of the day, and preference for ScCLs over soft contact lenses during physical activity.

**Conclusion:** The present study aims to encourage reflection on the new routine contexts that contribute to the creation of needs, which are still little explored in their complexity. High-performance digital tasks require satisfactory visual performance, and ScCLs can be a useful ally in this context. Further research is warranted to clarify their importance.

**Keywords:** cornea, contact lens, scleral contact lens, visual performance, dry eye

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

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**CEP Number: 73631023**

**5. ABSTRACT (REQUIRED):**

**Title:** INFLUENCE OF EYELID SPASMS ON INTRAOCULAR PRESSURE

**Author and Co-authors:** Tulio Ruiz Eschiapati, Gustavo Ludwig, Lilian Ohkawara, Midori Osaki, Gustavo Gameiro and Tammy Osaki

**Purpose:** Hemifacial spasm (HFS) is a condition characterized by unilateral and involuntary contractions of the facial muscles, potentially affecting ipsilateral intraocular pressure (IOP). This study aims to evaluate the effect of eyelid spasms on IOP in patients with HFS.

**Methods:** This prospective study included patients with HFS and healthy control subjects. IOP measurements were taken in both eyes using a Goldmann tonometer, before and two weeks after treatment of eyelid spasms with botulinum toxin-A ( BoNT-A) injections. Control patients underwent a single IOP measurement in both eyes. Data analysis was performed with the Kruskal-Wallis and Wilcoxon matched-pairs signed rank tests to compare IOP between groups and eyes. A p-value less than 0.05 was considered statistically significant.

**Results:** The study analyzed IOP measurements from 25 non-glaucomatous HFS patients (25 affected eyes, 25 unaffected eyes) and 11 non-glaucomatous control subjects (22 eyes). Statistically significant differences in IOP measurements between control patients and the affected eyes of HFS patients (p

**Conclusion:** Greater values of IOP were observed on the affected side of HFS patients before treatment. This finding can be explained by the presence of eyelid spasms and increased tension on the ipsilateral cornea. In addition, our study showed a significant reduction in IOP on the affected eyes of HFS patients after treatment of eyelid spasms with BoNT-A injections. Further research is needed to investigate ipsilateral optic nerve damage secondary to increased IOPs and the potential risk of glaucoma in HFS patients.

**Keywords:** Hemifacial Spasm, Intraocular Pressure, Botulinum Neurotoxin A



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

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**CEP Number: 33771514**

**5. ABSTRACT (REQUIRED):**

**Title:** Evaluation of the efficacy of the use of subcutaneous doxycycline injection for the treatment of malar edema, malar mounds and festoons

**Author and Co-authors:** Amanda Thum Welter, Ana Estela Santã™Anna, Cristina Yabumoto, Midori Osaki, Carlos Alberto Ferreira and Tammy Osaki

**Purpose:** The periorbital region plays a crucial role in both the functionality and aesthetics of the face, and conditions such as malar edema, malar bags, and festoons present significant challenges for oculoplastic surgeons. These conditions are frequently observed in patients of various ages, being more common in elderly individuals due to the natural aging process and loss of tissue elasticity. The underlying pathophysiology of these alterations is not yet fully understood, and the absence of a widely accepted standard treatment makes it essential to investigate new therapeutic approaches. This study aims to evaluate the efficacy of subcutaneous injection of doxycycline as an intervention for the treatment of malar edema, malar bags, and festoons. Doxycycline, an antibiotic of the tetracycline class, has shown promising results and a good safety profile in preliminary studies due to its sclerotic potential and ability to inhibit the action of matrix metalloproteinases, leading to a reduction in fluid accumulation in the periorbital region.

**Methods:** Patients with malar edema, malar bags, and festoons were included in this study. Inclusion criteria included patients with these conditions who desired to be submitted to this less invasive modality of treatment. Exclusion criteria: allergy to any component of the drug, previous treatment of these conditions, previous filler injections. The patients received subcutaneous (SC) doxycycline injections and were evaluated before, at 30 and 90 days after the procedure.

**Results:** Four patients so far have been treated with 1 session of SC doxycycline. All patients presented some degree of clinical improvement and reported satisfaction with the aesthetic results. No adverse effects were observed.

**Conclusion:** Doxycycline, with its sclerotic potential, seems to be a promising alternative for the management of malar edema, malar bags, and festoons. Currently there is no therapeutic consensus for these conditions and the use of SC doxycycline seems to be a viable alternative treatment. A greater number of patients is needed for further conclusions regarding the efficacy of this drug.

**Keywords:** malar edema, malar bags, festoon, doxycycline, treatment

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

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**CEP Number: 05342-018**

**5. ABSTRACT (REQUIRED):**

**Title:** The Babinski type 2 sign in hemifacial spasm patients

**Author and Co-authors:** Flavio Fowler, Midori Osaki, Cristina Yabumoto and Tammy Osaki

**Purpose:** The Babinski type 2 sign, also known as the "other Babinski sign" or "brow-lift sign," is a physical examination maneuver that is positive when a patient lifts the eyebrow while closing the ipsilateral eye, indicating synchronized activity of the frontalis and orbicularis oculi muscles during spasms affecting hemifacial spasm (HFS) patients. Literature indicates varying prevalence and specificity of this reflex in HFS patients, highlighting its potential diagnostic value. This study aims to assess the presence of this reflex in HFS patients followed-up at the Oculoplastic Surgery division of the Federal University of São Paulo (UNIFESP).

**Methods:** Patients with HFS will be evaluated regarding the presence or absence of the Babinski type 2 sign. In addition, associated clinical factors, including age, gender, duration of symptoms, and medical history will be assessed.

**Results:** Preliminary results show that the sign was present in 67% of assessed HFS patients so far.

**Conclusion:** Possible correlations between the presence of the Babinski type 2 sign and other clinical factors may provide valuable insights for clinical practice and future research in HFS patients.

**Keywords:** Hemifacial Spasm; Babinski sign type 2; Oculoplastics

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Conclusion  
Keywords

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

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

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**CEP Number: 04042-002**

**5. ABSTRACT (REQUIRED):**

**Title:** Outcomes of Lacrimal Patency Following Inferior Eyelid Reconstructive Surgery with canalicular involvement after Trauma, using Johnson Wire

**Author and Co-authors:** Josã© Rodolfo Mariani Radaeli

**Purpose:** The purpose of this study is to evaluate the outcomes of lacrimal patency (the ability of the tear drainage system to remain open and functional) following inferior eyelid reconstructive surgery that involves the canalicular system. Specifically, it aims to assess the effectiveness of using the Johnson wire as a stent to maintain canalicular patency during the healing process. The study seeks to determine the success rate in maintaining proper tear drainage, identify any complications, and gauge patient satisfaction with the procedure.

**Methods:** A retrospective study was conducted involving [insert number] patients who underwent inferior eyelid reconstructive surgery involving canalicular repair or reconstruction between [insert year range]. All patients had the Johnson wire stent placed during surgery to maintain canalicular patency during the healing process. Patient data were collected from medical records, including demographics, underlying conditions necessitating surgery, surgical technique, and postoperative follow-up.

**Results:** em andamento

**Conclusion:** em andamento

**Keywords:** nferior eyelid reconstruction, canalicular involvement, lacrimal patency, Johnson wire, epiphora, tear drainage, stenting

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**(TU) TUMORS AND PATHOLOGY**

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**CEP Number: 60165121**

**5. ABSTRACT (REQUIRED):**

**Title:** Mortality profile of pediatric eye cancer from 2010 to 2022 in Brazil.

**Author and Co-authors:** Barbosa JP, de Boer DT, Queruz, EAC, Teixeira LF.

**Purpose:** Evaluate the epidemiological profile of deaths due to eye cancer among children in Brazil from 2010 to 2022.

**Methods:** Data were selected from the "Sistema de Informação sobre Mortalidade" of the Brazilian Ministry of Health, including death certificates, from 2010 to 2022, from all federative units, filtering the codes C69.0 to C69.9 as the cause of death, according to the International Classification of Diseases, Tenth Revision. Only deaths of individuals aged 0 to 14 were included.

**Results:** A total of 363 deaths from malignant neoplasm of the eye and adnexa (C69) occurred among individuals aged 0 to 14 years in Brazil from 2010 to 2022. Men corresponded to most of the deaths (59.22%). The most frequent site of neoplasm was retina (C69.2), corresponding to 286 cases (78.78%). There was a tendency to reduce total deaths due to eye cancer and death due to malignant retina neoplasm during the evaluated years, while the number of deaths due to other types of ocular cancer remained stable in children aged 0 to 14 years.

**Conclusion:** There was a slight reduction in the deaths due to eye cancer among children in Brazil from 2010 to 2022, mostly due to a reduction in the mortality caused by retina cancer in this group.

**Keywords:** Retinoblastoma; Retinal Cancer; Eye Cancer; Epidemiology; Mortality.

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

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**CEP Number: 66050-040**

**5. ABSTRACT (REQUIRED):**

**Title:** Pseudoretinoblastoma at an ocular oncology referral center in Brazil: epidemiological analysis

**Author and Co-authors:** Matheus Ferreira Santos da Cruz, Carla D Macedo, Bruno A Miranda, Luiz Fernando Teixeira

**Purpose:** Pseudoretinoblastoma refers to a group of ocular conditions that can be misdiagnosed as retinoblastoma, the most common intraocular malignancy afflicting children. Differentiating pseudoretinoblastoma from actual retinoblastoma is crucial to avoid unnecessary treatments, such as chemotherapy or enucleation, which can have significant long-term consequences for the patient. Our purpose was to determine the types and frequency of ocular conditions that simulate retinoblastoma (pseudoretinoblastoma) in an ocular oncology reference hospital in Brazil.

**Methods:** This study was a retrospective observational analysis carried out at GRAAC (Grupo de Apoio ao Adolescente e a Criança com Câncer), a tertiary pediatric oncology hospital. It involved 591 patients, referred to the ocular oncology clinic with a suspected diagnosis of retinoblastoma from January 2017 to September 2024. The researchers reviewed patient information regarding age, gender, and presenting signs and symptoms. Each patient underwent thorough a complete ocular examination under general anesthesia. Diagnosis was determined based on clinical observations and the outcomes of diagnostic tests.

**Results:** Of the 591 patients referred to our tertiary referral hospital, 473 (80%) were diagnosed with retinoblastoma, while 118 (20%) had a pseudoretinoblastoma diagnosis. There were 20 different pseudoretinoblastoma conditions, and the most common included Coats' disease (n = 36; 30.5%), ocular malformation (n = 25; 21,1%), pseudoleukocoria - normal fundus exam (n = 13; 11,0%), ocular toxocariasis (n = 6; 5%), coloboma (n = 6; 5%), medulloepithelioma (n = 5; 4,2%), genetic syndromes (n = 5; 4,2%), retinal Astrocytoma and Choristoma (n = 3; 2,5%), rhegmatogenous retinal detachment (n = 3; 2,5%), cataract (n = 3; 2,5%), lymphoid leukemia (n = 3; 2,5%), melanocytic nevus and choroidal melanoma (n = 3; 2,5%), Tuberous sclerosis (n = 2; 1,6%), Retinopathy of Prematurity (n = 2; 1,6%), persistent fetal vasculature (n = 1; 0.8%) and Persistent Vitreous Pigmentation (n = 1; 0.8%).

**Conclusion:** The most common pseudoretinoblastomas causes include Coats' disease, ocular malformation and pseudoleukocoria.

**Keywords:** Retinoblastoma ; Pseudoretinoblastoma ; Coats' disease

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

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**CEP Number: 04037-000**

**5. ABSTRACT (REQUIRED):**

**Title:** Mortality Patterns of Malignant Neoplasms of the Eye in Individuals Over 65 in São Paulo from 2010 to 2022

**Author and Co-authors:** de Boer DT, Barbosa JP, Queruz, EAC, Teixeira LF

**Purpose:** Evaluate the epidemiological profile of deaths due to eye cancer in Individuals Over 65 in São Paulo from 2010 to 2022

**Methods:** Data were selected from the "Sistema de Informação sobre Mortalidade" of the Brazilian Ministry of Health, including death certificates from 2010 to 2022, specifically for the state of São Paulo. The analysis focused on filtering the codes C69.0 to C69.9 as the cause of death, according to the International Classification of Diseases, Tenth Revision. Only deaths of individuals aged over 65 were included

**Results:** total of 418 deaths were recorded in association with CIDs C690 to C699 during the period from 2010 to 2022. The CID C699, classified as "Malignant neoplasm of eye, unspecified," was the most prevalent, accounting for 165 deaths (39.47%). The gender distribution showed a higher prevalence in males, representing 52.87% of the total deaths. Over the evaluated years, there was a noticeable increase in deaths associated with CID C699 until 2017, followed by a gradual decrease. In contrast, deaths related to "Malignant neoplasm of orbit" (CID C696) showed intermittent peaks, suggesting possible seasonal or event-specific influences. Other CIDs, such as "Malignant neoplasm of choroid" (CID C693) and "Malignant neoplasm of retina" (CID C692), exhibited stable or slightly increasing trends without significant fluctuations.

**Conclusion:** From 2010 to 2022, there was a significant increase in mortality associated with CID C699, peaking in 2017. This trend highlights the need for targeted public health interventions to address the causes of malignant neoplasm of eye. While some CID-related deaths have stabilized, further investigation into specific factors contributing to these trends is warranted.

**Keywords:** Malignant Neoplasm of Eye; Malignant Neoplasm of Orbit; Malignant Neoplasm of Choroid; Malignant Neoplasm of Retina; CID C699; Mortality Trends; Epidemiology; Public Health; São Paulo; Elderly.

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

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**CEP Number: 13207-340**

**5. ABSTRACT (REQUIRED):**

**Title:** Ocular penetrating trauma with glass shards with intraocular foreign bodies in the anterior chamber and vitreous.

**Author and Co-authors:** Daniela Bueno Larrubia Diego Pessoa Jucãi Machado, Frederico do Carmo Novaes, Josã© de Paula Barbosa Neto, Leonardo Ajuz do Prado Oliveira, Nilva Simeren Bueno de Moraes

**Purpose:** To present a clinical case of a patient with ocular trauma involving glass shards as intraocular foreign bodies and to discuss the diagnostic and management strategies employed.

**Methods:** The patient medical record was reviewed.

**Results:** A 34-year-old male presented with a penetrating ocular trauma from glass shards during a robbery. Comprehensive ophthalmologic examination, including retinography, anterior segment optical coherence tomography, and ocular ultrasonography, was performed to assess the extent of injury and identify intraocular foreign bodies. Initial examination revealed self-sealing corneal lacerations, and intravitreal foreign bodies. Retinography showed a glass shard in the vitreous above a retinal artery. Anterior segment OCT identified another shard retained in the corneal stroma. CT imaging confirmed hyperdense structures within the vitreous. No retinal or lens damage was observed. Given the inert nature of glass, observational management was chosen. Follow-up showed no inflammation or visual complaints.

**Conclusion:** This case highlights the importance of multimodal imaging in diagnosing and managing intraocular foreign bodies. OCT, CT and ocular ultrasonography are crucial for accurately locating and identifying the nature of foreign bodies, guiding appropriate treatment. Glass shards, being inert, may be managed conservatively if no associated ocular damage is present.

**Keywords:** Penetrating ocular trauma; Intraocular foreign body

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

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**CEP Number: 04039-000**

**5. ABSTRACT (REQUIRED):**

**Title:** Case Report: Aneurysm of the Right Posterior Communicating Artery Presenting with Thunderclap Headache and Ocular Motor Nerve Palsy

**Author and Co-authors:** Fernanda Matos e Oliveira, Letícia Sant'Ana

**Purpose:** We present the case of a 31-year-old female with an aneurysm of the right posterior communicating artery (PCOM), presenting with thunderclap headaches, binocular diplopia, and right-sided ptosis. This case highlights the importance of early recognition and management of aneurysms to prevent complications such as subarachnoid hemorrhage.

**Methods:** This case report is based on a review of the patient's medical records. Ophthalmological evaluation included slit-lamp examination, fundoscopy, and Goldmann tonometry. A CT angiography (CTA) was performed for neurovascular assessment.

**Results:** A 31-year-old female, presented with worsening headaches over the past few days. She had two episodes of thunderclap headaches (6/10 in intensity), temporarily relieved by analgesics. The patient later developed binocular diplopia and ptosis of the right eye. Her past medical history was unremarkable. Best corrected visual acuity was 20/32 in the right eye and 20/20 in the left. Slit-lamp and fundus examinations were unremarkable. Intraocular pressure was 12 mmHg (right eye) and 14 mmHg (left eye). Ocular motility showed limited abduction, elevation, and infraduction in the right eye. Ptosis was confirmed with MRD1 measurements (-1 mm in the right eye, 4 mm in the left). Levator muscle function was 0 mm in the right eye and 16 mm in the left. CTA revealed a saccular aneurysm in the right PCOM, measuring 8.7 x 5.1 mm. The patient was referred to a neurovascular team for possible endovascular coiling or surgical clipping. Given the risk of rupture, blood pressure control was emphasized. The patient was educated about aneurysm rupture symptoms, including sudden severe headaches, nausea, vomiting, and loss of consciousness. Serial neuroimaging (CTA or MRA) was recommended to monitor the aneurysm.

**Conclusion:** PCOM aneurysms often present with cranial nerve III palsy due to anatomical proximity to the nerve. Although this patient did not experience subarachnoid hemorrhage, the aneurysm's size (8.7 mm) posed a significant rupture risk. Diagnosis relies on clinical suspicion, supported by imaging such as CTA or MRA, which identified the aneurysm's location and size. Management options include endovascular coiling or surgical clipping, both aimed at rupture prevention. This case emphasizes the need for early diagnosis and timely neurosurgical consultation to prevent fatal outcomes.

**Keywords:** Posterior Communicating Artery Aneurysm, Diplopia



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**CEP Number:** 04038-033

**5. ABSTRACT (REQUIRED):**

**Title:** Case Report: Sixth Cranial Nerve Palsy in a Child Secondary to Spontaneous Hemorrhage in an Arachnoid Cyst

**Author and Co-authors:** Kristian Nogueira; Victoria Sakamoto

**Purpose:** This report describes a rare case of sixth cranial nerve palsy in a child, caused by spontaneous hemorrhage within an intracranial arachnoid cyst. We focused on clinical presentation, diagnosis, and successful surgical treatment.

**Methods:** Case Presentation: A 6-year-old boy with no relevant medical history presented with 20 days of horizontal binocular diplopia. He denied headache, nausea, or trauma. Ophthalmologic Examination: The patient had corrected visual acuity of 20/32 in both eyes. Anterior biomicroscopy was unremarkable, with symmetrical pupillary reflexes. No relative afferent pupillary defect was observed. Fundoscopy revealed bilateral optic disc hyperemia with blurred margins. Extraocular motility testing showed esotropia in primary gaze and mild abduction limitation of the right eye, consistent with a -1 restriction of the right lateral rectus muscle. Diagnostic Workup: The findings suggested papilledema and right sixth nerve palsy, likely due to intracranial hypertension (IH). MRI of the brain and orbits revealed a cystic lesion in the left temporal fossa with a mass effect, consistent with cerebrospinal fluid. The cyst showed fluid-fluid levels suggesting hemorrhage and an adjacent subdural collection, consistent with an arachnoid cyst. Further lab tests, including infection and inflammation markers, were negative. A multidisciplinary team (Ophthalmology, Pediatrics, Neurology, and Neurosurgery) deferred lumbar puncture and opted for surgical fenestration of the cyst. Follow-up and Outcome: Two months post-surgery, the patient was asymptomatic, with no recurrence of diplopia. Visual acuity improved to 20/25 in both eyes. Fundoscopy showed bitemporal optic disc pallor.

**Results:** Discussion: Intracranial arachnoid cysts (IACs) are benign, congenital cerebrospinal fluid collections, typically diagnosed in childhood, representing 1% of intracranial lesions. Symptomatic IACs are rare, and symptoms depend on cyst size and location. Cyst rupture can lead to subdural hygroma, presenting with headaches, nausea, sixth nerve palsy, and papilledema. Surgical fenestration is the definitive treatment in symptomatic cases. This case underscores the importance of identifying clinical signs of intracranial hypertension for diagnosis and management.

**Conclusion:** This case highlights the need for early diagnosis and treatment of sixth cranial nerve palsy secondary to arachnoid cyst hemorrhage. Timely recognition and surgical intervention led to a positive outcome.

**Keywords:** Sixth cranial nerve palsy, arachnoid cyst, intracranial hypertension, diplopia, optic disc edema, pediatric neuro-ophthalmology.

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

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**CEP Number: 04022-040**

**5. ABSTRACT (REQUIRED):**

**Title:** ACUTE ISCHEMIC EVENT UNVEILING AN INCIDENTAL PITUITARY TUMOR WITH SIGNIFICANT VISUAL FIELD LOSS

**Author and Co-authors:** Author: Rafael Silveira Feitosa Advisor: Dr. Letícia Sant'Ana Cardoso

**Purpose:** INTRODUCTION Pituitary incidentalomas are often discovered incidentally, with a prevalence of up to 20%. While most are non-functional microincidentalomas, they can compress the optic chiasm and cause significant visual deficits. This case describes a patient who experienced acute visual field loss due to a compressive chiasmal lesion following an ischemic event.

**Methods:** MATERIAL AND METHODS The patient's medical record was reviewed.

**Results:** RESULTS A 62-year-old female patient presented with blurred vision for five days, reporting difficulties with peripheral vision on the left. She had a history of hypertension and no prior cardiovascular events. Ophthalmological examination revealed 20/20 vision bilaterally, but a loss of nasal and temporal visual fields with preserved central vision. Cranial imaging indicated acute ischemia in the right occipital lobe and a 2.0 x 2.0 x 1.6 cm cystic lesion in the sella turcica compressing the optic chiasm. The patient was referred for neurological evaluation and follow-up with the neuro-ophthalmology team. DISCUSSION The degree of optic chiasm compression leads to varying visual loss, with factors such as demyelination and ischemia influencing the presentation. Patients often exhibit insidious progression of visual symptoms, which may not be recognized until significant deficits occur. The incidentaloma likely contributed to prior visual field loss affecting the left nasal and right temporal regions. Additionally, the right occipital ischemic lesion worsened the visual impairment, resulting in left homonymous hemianopsia and a tubular field pattern. Common causes of optic chiasm compression include craniopharyngiomas and meningiomas, and treatment approaches depend on the nature of the tumor and associated symptoms. Macroincidentalomas require more vigilant monitoring due to their growth potential, highlighting the importance of MRI for surgical planning and management.

**Conclusion:** CONCLUSION This case underscores the often-subtle nature of sellar tumors and their potential for causing significant visual impairment. The incidentaloma was only identified after acute visual changes, emphasizing the need for timely interventions guided by incidental findings to improve patient prognosis.

**Keywords:** Incidentaloma; Pituitary tumor; Visual field loss; Optic chiasm compression

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**Abstract should contain:**

Title  
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Co-authors (maximum 6)  
Purpose  
Methods  
Results,  
Conclusion  
Keywords

Poster guidelines:  
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**1.FIRST (PRESENTING) AUTHOR (REQUIRED):**

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**CEP Number: 59056106**

**5. ABSTRACT (REQUIRED):**

**Title:** Incidence and risk factors associated with the development of ocular changes in premature infants.

**Author and Co-authors:** Machado, L. R. D. H; Rodrigues, A. P. S; Nakayama, S. A; Dias, P. B; Gusmão, M. G. M.

**Purpose:** To determine the incidence of ocular changes in children born prematurely and evaluate the risk factors associated with the development of each of the changes found.

**Methods:** Sixty children aged 1 to 16 years old and born between 22 and 32 weeks of gestation with history of premature delivery were recruited and underwent an ophthalmological examination at the Premature infants ophthalmologic campaign in June 8th 2024 at the the Federal University of São Paulo. The data collected related to gestational age and birth weight, use of oxygen therapy and mechanical ventilation, length of stay in a neonatal intensive care unit, presence of complications during hospitalization, cause of premature birth and other comorbidities associated with prematurity. Static retinoscopy was performed (after 40 minutes of instillation of 0.5% proxymetacaine, 1% cyclopentolate and 1% tropicamide eye drops), ocular motility with simple and alternating Cover test as well as evaluation of versions and ductions, anterior biomicroscopy with a slit lamp, intraocular pressure measurement with an Icare tonometer and retinal mapping with an indirect binocular ophthalmoscope and a 20-diopter lens.

**Results:** In progress.

**Conclusion:** In progress.

**Keywords:** premature infants, ocular changes, risk factors.

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Keywords

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

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**CEP Number: 01327-002**

**5. ABSTRACT (REQUIRED):**

**Title:** Automated Diagnosis of Strabismus in Five Diagnostic Gaze Positions Using Videos with Cover Test

**Author and Co-authors:** Paula Basso Dias Simone Akiko Nakayama JoÃ£o Dallyson Almeida Jorge AntÃ´nio Meireles Teixeira

**Purpose:** To develop and validate a low-cost methodology using videos of the five gaze positions (primary position, levoversion, dextroversion, supraversion, and infraversion) to diagnose strabismus with greater precision and comprehensiveness.

**Methods:** Videos of 10 patients will be recorded, capturing the five gaze positions. The images will be processed using software to detect the area around the eyes, locate the pupil and limbus, track eye movements, detect the occluder (alternating cover test), identify misalignments, and provide a diagnosis. Deviation analysis will be performed with prism diopter calculations for each gaze position. The results obtained from this methodology will be compared with diagnoses provided by specialists.

**Results:** (In progress). The developed methodology is expected to offer a more precise diagnosis of strabismus by considering the five gaze positions, demonstrating high efficacy in a larger and more diverse sample. The methodology should show high sensitivity, specificity, and accuracy comparable to specialist diagnoses. Furthermore, as a low-cost and easily implementable tool for strabismus diagnosis, it could improve access to diagnostics in various clinical settings.

**Conclusion:** (In progress). Accurate diagnosis of strabismus is crucial to prevent long-term visual complications. These results are anticipated to significantly contribute to enhancing the treatment and visual outcomes of strabismus patients, ultimately improving the quality of life of individuals affected by this condition.

**Keywords:** Strabismus, Automated Diagnosis

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

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

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**CEP Number: 04028-002**

**5. ABSTRACT (REQUIRED):**

**Title:** REFRACTIVE ERRORS IN PRETERM INFANTS IN A TERTIARY CARE HOSPITAL

**Author and Co-authors:** Gusmão, M. G. M; Rodrigues, A. P. S; Nakayama, S. A; Machado, L. R. D. H; Dias, P. B.

**Purpose:** To study the refractive outcome in patients of the Department of Ophthalmology and Visual Sciences, Federal University of São Paulo "UNIFESP that had a history of premature delivery.

**Methods:** Sixty children aged 1 to 16 years old and born between 22 and 32 weeks of gestation with history of premature delivery were recruited and underwent an ophthalmological examination at the Premature infants ophthalmologic campaign in June 8th 2024 at the the Federal University of São Paulo. It was performed a cycloplegic retinoscopy with administration of 0.5% proxymetacaine, 1% tropicamide and 1% ciclopentolato, with a 10-minute interval between each drop. Retinoscopy was performed 40 minutes later. It was also done assessment of ocular motility with evaluation of ductions and versions, presence or absence of ocular deviation assessment with the simple and alternating Cover test, intraocular pressure with Icare tonometer, anterior biomicroscopy and fundus examination. Data such gestational age, birth weight, cause of prematurity and complications and need for oxygen support in the neonatal period were analyzed based on a review of medical records.

**Results:** In progress.

**Conclusion:** In progress.

**Keywords:** refractive error, preterm infants

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

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**Advisor: Paulo Schor**

**CEP Number: 44001-336**

**5. ABSTRACT (REQUIRED):**

**Title:** Real World Evidence of the Use of Cloudscaper Optotypes versus LEA Symbols for Virtual/Digital Visual Acuity Measurement in Children 3 to 16 Years Old

**Author and Co-authors:** Cristiana Ronconi Lopes, Julia Dutra Rossetto, Luisa Moreira Hopker, Ana Carolina Sarmiento Barros Carneiro, Bárbara Stofel Ventorin, Paulo Schor

**Purpose:** A cross-sectional study comparing best-corrected visual acuity(VA) obtained using Cloudscaper symbols(CS), a new optotype developed based on ETDRS specifications for children's virtual screening, to LEA Symbols(LS) and to standard Snellen E paper chart (SPC)

**Methods:** 560 children aged 3-16yo, underwent VA test with CS and LS. The test application was standardized by EyeSpy algorithm. 147 subjects were also tested with standard Snellen E paper chart (SPC). Paired t-tests were performed to assess logMAR VA clinical significance.

**Results:** Mean logMAR LS VA was 0.12 (SD 0.18 - range -0.10 to -0.80) and 0.18 with CS (SD 0.19 - range -0.10 to -0.80). Mean VA difference between CS and LS was 0.099 (0.5 optotypes) (SD 0.08 - range 0.0 to -0.14, p

**Conclusion:** CS is reliable for visual screening in children. CS symbols slightly underestimated VA compared to LS, which was also reported when comparing ETDRS letters to LS. CS VA measurements align closely with SPC tests, unlike LS. This suggests CS offer precise VA assessment comparable to the gold standard.

**Keywords:** 1. vision screening; 2. technologies, remote sensing; 3. ophthalmological diagnostic technique; 4. pediatric ophthalmology; 5. visual acuity; 6. computer vision system

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

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**CEP Number: 04040-002**

**5. ABSTRACT (REQUIRED):**

**Title:** Color Doppler Imaging of the Eye and Orbit: 10-year retrospective evaluation

**Author and Co-authors:** Pedro Fernandes Souza Neto; Norma Allemann

**Purpose:** To describe the epidemiological profile of patients submitted to Color Doppler Imaging (CDI) of the eye and orbit at a reference center for the last 10 years.

**Methods:** Analysis of the database (medical records) of the Ocular Ultrasound Service at UNIFESP between the years 2015 to 2024 (10 years) of CDI of the eye and orbit examinations.

**Results:** Over the 10-year period, 641 Color Doppler Imaging (CDI) exams of the eye and orbit were performed at the Department of Ophthalmology, UNIFESP. Female patients comprised 52.4% of the sample (336 patients). The mean age of the sample was 34.44 years (SD: 28.47 years), with an age range spanning from 1 month to 90 years. A total of 849 eyes were evaluated across 641 CDI exams, with 32.4% being bilateral assessments. Referrals for CDI exams came from the following subspecialties within the department: orbit (321 eyes, 37.8%); retina and vitreous (312 eyes, 36.7%); oncology (66 eyes, 7.7%); and emergency (42 eyes, 4.9%). The primary indications for CDI included: vascularized orbital lesions, arteriovenous malformations, suspected venous thromboses; assessment of vascular flow in retinal detachment and retinopathy of prematurity; evaluation of vascularization in suspicious ocular lesions, such as choroidal melanoma; and cases with suspected arteriovenous fistulas.

**Conclusion:** This study allowed for the identification of the epidemiological profile of patients undergoing CDI of the eye and orbit, the distribution of exams performed over the last decade, and the most common indications for their use.

**Keywords:** color doppler imaging; eye doppler; ocular doppler; orbital doppler

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

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**Advisor: Miguel Burnier**

**CEP Number: 56128-950**

**5. ABSTRACT (REQUIRED):**

**Title:** Diagnosis and histopathological evaluation of soft drusen in patients that underwent evisceration and enucleation

**Author and Co-authors:** Anelise Savaris Dias (1,2), Julia Valdemarin Burnier (1), Sabrina Bergeron (1), Emma Youhnovska (1), Emily Marcotte (1), Rubens N. Belfort (2), Miguel Noel Burnier Jr.(1,2) (1) Department(s) and institution(s): Department of Ocular Pathology and Translati

**Purpose:** Drusen are yellow deposits between the basal lamina of the retinal pigment epithelium (RPE) and the inner collagenous layer of Bruchâ€™s membrane. Soft drusen, generally characterized by a medium to large size and poorly demarcated boundaries, increases the risk for advanced age-related macular degeneration (AMD). The prevalence of soft drusen in histopathological sections of the macular region, obtained from enucleated and eviscerated eyes, will be correlated in this study.

**Methods:** This is a prospective, cross-sectional study performed at the MUHC-McGill University Ocular Pathology & Translational Research Laboratory (McGill University, Montreal, Canada). A total of 158 eyes were evaluated between 2011-2019. Of these, 50% were enucleated and 50% eviscerated eyes. Cases were divided by age in decades into both groups, eviscerated and enucleated eyes. Inclusion criteria were patients aged 50 years or older, identification by histological criteria of macular area, histopathologically preserved macular area, presence of sufficient residual tissue for additional sections, concrete patient data. Histopathological review was performed in digitized H&E slides (Zeiss AxioScan.Z1) to assess the presence of soft drusen.

**Results:** The results in both groups, enucleated and eviscerated eyes were similar, as well as the histopathological criteria used in the analysis of soft drusen

**Conclusion:** Prevalence of age-related macular degeneration in the referred population was comparable to that described in both studied groups. Financial support for this study was assumed by the responsible researcher.

**Keywords:** Soft Drusen, age-related macular degeneration, evisceration, enucleation



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Keywords

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3. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Advisor: Rubens Belfort Mattos Jr.**

**CEP Number: 30720-570**

5. ABSTRACT (REQUIRED):

**Title:** Targeting miR-181a/b in Retinitis Pigmentosa: Implications for Disease Progression and Therapy

**Author and Co-authors:** Bruna Lopes da Costa, Peter M.J. Quinn, Wen-Hsuan Wu, Siyuan Liu, Nicholas D. Nolan, Aykut Demirkol, Yi-Ting Tsai, Salvatore Marco Caruso, Thiago Cabral, Nan-Kai Wang, Stephen H Tsang

**Purpose:** Retinitis pigmentosa (RP) is a genetically heterogeneous group of degenerative disorders causing progressive vision loss due to photoreceptor death. RP affects other retinal cells, including the retinal pigment epithelium (RPE). MicroRNAs (miRs) are implicated in RP pathogenesis, and downregulating miR-181a/b has shown therapeutic benefit in RP mouse models by improving mitochondrial function.

**Methods:** This study investigates the expression profile of miR-181a/b in RPE cells and the neural retina during RP disease progression. We also evaluate how miR-181a/b downregulation, by knocking out miR-181a/b-1 cluster in RPE cells, confers therapeutic efficacy in an RP mouse model and explore the mechanisms underlying this process.

**Results:** Our findings reveal distinct expression profiles, with downregulated miR-181a/b in RPE cells suggesting a protective response and upregulated miR-181a/b in the neural retina indicating a role in disease progression. We found that miR-181a/b-2, encoded in a separate genomic cluster, compensates for miR-181a/b-1 ablation in RPE cells at late time points. The transient downregulation of miR-181a/b in RPE cells at post-natal week 6 (PW6) led to improved RPE morphology, retarded photoreceptor degeneration and decreased RPE aerobic glycolysis.

**Conclusion:** Our study elucidates the underlying mechanisms associated with the therapeutic modulation of miR-181a/b, providing insights into the metabolic processes linked to its RPE-specific downregulation. Our data further highlights the impact of compensatory regulation between miR clusters with implications for the development of miR-based therapeutics.

**Keywords:** MicroRNAs, Metabolic Reprogramming, Retinal Pigment Epithelium, Retinitis Pigmentosa, Aerobic Glycolysis

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### (TU) TUMORS AND PATHOLOGY

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Keywords

Poster guidelines:  
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**Advisor: Miguel Burnier**

**CEP Number: 2024-1008**

#### 5. ABSTRACT (REQUIRED):

**Title:** The value of diagnostic vitrectomy: Histocytopathology techniques for the diagnosis of lymphoma of the retina

**Author and Co-authors:** Giovanna Provenzano, Julia Valdemarin Burnier, Sabrina Bergeron, Emma Youhnovska, Emily Marcotte, John Chen, Vincent Sun, Miguel Noel Burnier Jr

**Purpose:** Primary large B-cell lymphoma of the retina, vitreous, and central nervous system (CNS), is an intraocular tumor with an unspecific and insidious clinical presentation. Pars plana vitrectomy (PPV) and optical coherence tomography (OCT) are useful diagnostic tools for this malignant process. The aim of this study is to evaluate the diagnostic efficacy of PPV for these intraocular lesions under a modified diagnostic protocol with a clinical pathological correlation with OCT imaging.

**Methods:** A total of 115 samples were collected after a vitrectomy procedure (aspiration or vitrectomy cassette). The samples were centrifuged, and the precipitates were collected. A cell block was prepared and analyzed with multiple stains and an immunohistochemistry (IHC) panel, including B- and T-cell markers, as well as light chain markers, to establish the monoclonal nature of the tumor. Of the 115 samples, 9 (7.83%) were diagnosed with large B-cell lymphoma of the retina, vitreous, and CNS.

**Results:** The diagnostic PPV provided suitable vitreous samples to all patients with undetermined uveitis and/or intraocular tumor suspicion. A morphological and immunohistochemical (IHC) analysis enabled a conclusive diagnosis of retina, vitreous and CNS lymphoma in all patients submitted to the procedure.

**Conclusion:** Diagnostic vitrectomies for the large B-cell lymphoma of the retina, vitreous, and CNS is an excellent tool for the diagnosis of this entity. A negative diagnostic PPV with a strong suspicious OCT image, where the neoplastic cells are located between the retinal pigmented epithelium and Bruch's membrane, the latter procedure should be either repeated or a chorioretinal biopsy be performed. In contrast, a positive vitrectomy using the IHC panel for large B-cell lymphoma of the retina, vitreous, and CNS is pathognomonic of this condition. In addition, the OCT is an important tool to help in the diagnosis of this difficult entity.

**Keywords:** Immunohistochemistry, lymphoma, retina, vitrectomy

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**Advisor: Rubens Belfort Mattos Jr.**

**CEP Number: 55044-020**

### 5. ABSTRACT (REQUIRED):

**Title:** Specialized patient care can improve quality of life of individuals diagnosed with inherited retinal dystrophies

**Author and Co-authors:** Jose Ronaldo Lima de Carvalho Jr., Gabriela Pereira Alves Menezes, Jaime Phasquinel Lopes Cavalcante, Thiago Cabral, Rubens Belfort Jr., Josimãirio Silva

**Purpose:** To evaluate the quality of life of individuals diagnosed with inherited retinal dystrophies (IRDs) as well as the impact of patient care provided by a specialist in ocular genetics

**Methods:** Three different groups of volunteers were recruited for this study. Group I consisted of 54 subjects of 8 years of age or older who were diagnosed with IRD and have had at least two visits to either the Ocular Genetics clinic (HCPE) or the UniVision clinic, in Recife. Group II involved 27 volunteers who were either family members of the individuals of group I or one of the parents of infants younger than 8 years of age diagnosed with IRD. A third group of 53 healthy individuals served as control. The quality of life of individuals from Group I was evaluated by the VFQ25 questionnaire developed by the NEI, Bethesda, USA, and previously validated in Brazil. The same questionnaire was applied to the control group. A second questionnaire was applied to groups I and II for a subjective evaluation of the impact of both the diagnosis of an IRD and the specialized patient care approach. Chi-square test was used to compare groups I and control for the VFQ25, while text mining analysis evaluated the subjective questionnaire

**Results:** VFQ25 unveiled a difference between group I and controls for all its 25 items (p48) while positive feelings went up (46

**Conclusion:** Subjects diagnosed with IRDs have lower quality of life than healthy counterparts. However, an educative medical approach combined with visual rehabilitation through specialized patient care can help these individuals and their families to have a better perspective of their disease and improve quality of life

**Keywords:** inherited retinal dystrophy, quality of life, ocular genetics, visual rehabilitation

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**Advisor: Eduardo Buchele Rodrigues**

**CEP Number: 01904-132**

### 5. ABSTRACT (REQUIRED):

**Title:** Macular Splint: A Prospective Randomized Study Evaluating Intravitreal Gas Injection Prior to Vitrectomy for Fovea-involving Retinal Detachment

**Author and Co-authors:** Julia Farah Agi, MD Rajinder Nirwan, MD Natália Lucena de Figueiredo, MD Eduardo B. Rodrigues, MD, PhD Geoff Williams, MD Amin Kherani, MD

**Purpose:** This study assessed whether preoperative intravitreal gas injection and face-down positioning for fovea-involving rhegmatogenous retinal detachment before Pars Plana Vitrectomy (PPV) would promote macular reattachment, facilitate surgery, and reduce the need for perfluorocarbon liquid (PFCL) endodrainage. The secondary objective was to evaluate the impact on visual acuity and metamorphopsia

**Methods:** In this prospective randomized study, thirty participants were randomly assigned to two groups: Group I (n=15) underwent intravitreal gas injection and face-down positioning until PPV, while Group II (n=15) followed standard head posturing before PPV. The study evaluated the influence of preoperative intravitreal gas injection on transitioning to fovea-sparing RRD, PFCL usage for endodrainage, and surgical procedure impact. Postoperative evaluations included Best Corrected Visual Acuity (BCVA) and metamorphopsia using M-Chart at 12 months

**Results:** 80% of Group I patients (95% CI: 51.9 to 95.7%) achieved foveal reattachment by surgery, compared to 0% in Group II. Patients with an attached fovea at surgery had lower PFCL usage (41.7%) compared to those with a detached fovea (88.9%) (p=0.013). Surgeons reported that gas injection facilitated surgery in 73.3% of cases. BCVA was similar in both groups at 12 months (p=0.415). Horizontal (p=0.607) and vertical (p=0.679) Metamorphopsia assessments with M-Chart were also similar in both groups.

**Conclusion:** : For patients with fovea-involving RRD, intravitreal gas injection and face-down positioning before PPV significantly increased the likelihood of foveal reattachment before surgery. Notably, this approach correlated with a reduced need for PFCL usage and facilitated surgical ease. This approach did not adversely affect BCVA or metamorphopsia outcomes.

**Keywords:** Rhegmatogenous Retinal Detachment, Pneumatic Retinopexy, Pars Plana Vitrectomy, Macular Splint

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**Advisor: José Álvaro Pereira Gomes**

**CEP Number: 98700-000**

### 5. ABSTRACT (REQUIRED):

**Title:** Comparative Analysis of the intestinal Microbiome in Patients with Stevens-Johnson Syndrome, Sjögren's Syndrome and Healthy patients.

**Author and Co-authors:** Luciana Frizon, Talita Trevizani Rocchetti, André Frizon, Cãntia S de Paiva, Ana Luiza Hofling-Lima, Josãlvãrvaro Pereira Gomes

**Purpose:** To investigate the intestinal microbiome in patients with Stevens-Johnson Syndrome and Sjögren's Syndrome, comparing them to healthy individuals (CON) without dry eye, using next-generation sequencing (NGS).

**Methods:** Fecal samples were collected from 10 patients with SJS, 10 patients with SS, and 10 healthy control subjects. We separate the patients with SJS into mild, moderate, and severe groups. Clinical parameters of dry eye were evaluated using the DEWS score, graded from 0 to 4, analyzing the OSDI questionnaire, ocular staining score (OSS), Schirmer I test, and tear breakup time (TBUT). Bacterial DNA extraction was performed using the ZymoBIOMICS DNA Kit. The microbiome profile was characterized by next-generation sequencing of the 16S V3-V4 region using the Qiagen library kit. Sequencing was performed on the MiSeq Illumina platform, and data were analyzed using the Silva database.

**Results:** The mean age of individuals with SJS was 36.33 years (70% female), 50.2 years in the SS group (100% female), and the 10 controls were matched by sex and age for each group[C1]. The sequencing analysis showed Firmicutes was the most abundant phylum in the gut in all groups (control= 59%; SJS= 52%; SS= 64%) followed by Bacteroidota (control= 34%; SJS= 42%; SS= 31%). In the SJS group, the phylum Firmicutes was more abundant in patients with mild symptoms (60%) compared to those with moderate (50%) and severe (45%) symptoms. In contrast, patients with severe ocular classification showed a higher abundance of the phylum Bacteroidota (47%) compared to those with milder (35%) and moderate (43%) symptoms. Chao1 index median was higher into control group (196:144,75-218,25), showing statistical significant difference from SJS group (96,5:87,5-144,0), while there was no difference with SS group (167,5:110,75-228,25). Beta diversity showed no significant distances between the groups. Compositional differences was found into genus level, Agathobacter (LDA 4,04) and Corynebacterium (LDA 2,61) was associated with SJS group, while Eubacterium\_elifens\_group (LDA 4,03) and Erysipelotrichaceae (LDA 3,44) was associated with SS the group. Other data are still under statistical analysis.

**Conclusion:** Differences in the gut microbiome were observed between the studied groups. The findings of this study will provide information that will be important to guide treatment with prebiotics and probiotics in patients with Stevens-Johnson Syndrome and restore the gut ecosystem and bring back a healthy ocular surface.

**Keywords:** Gut microbiome, Stevens-Johnson Syndrome, Sjögren Syndrome, eye diseases.

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8. FIRST (PRESENTING) AUTHOR (REQUIRED):

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**Advisor: Mauro Silveira de Queiroz Campos**

**CEP Number: 1170/2020**

5. ABSTRACT (REQUIRED):

**Title:** Scheimpflug Tomographic Indices for Classifying Normal, Down Syndrome and Clinical Keratoconus in Pediatric Patients

**Author and Co-authors:** Renato Souza Oliveira, João Quadrado Gil, Andreia Rosa, Maria João Quadrado, Mauro Campos

**Purpose:** The study aimed to evaluate the precision of different Pentacam indices in diagnosing keratoconus (KC) in pediatric patients with Down syndrome (DS) and determine suitable cutoff values.

**Methods:** This prospective multicenter cross-sectional study evaluated 216 eyes of 131 patients aged 6-18 years (mean age  $12.5 \pm 3.2$  years) using Pentacam. Patients were categorized into four groups: KC, forme fruste keratoconus (FK), DS, and control, excluding DS patients with topographic KC. Receiver operating characteristic curves were generated to determine optimal cutoff points and compare accuracy in identifying KC and FK in patients with and without DS.

**Results:** In DS patients, corneal morphology resembled KC features. The most effective indices for distinguishing KC in DS patients were the average pachymetric progression index (AUC = 0.961), higher-order aberration of the anterior cornea (AUC = 0.953), anterior elevation (AUC = 0.946), posterior elevation (AUC = 0.947), index of vertical asymmetry (AUC = 0.943), and Belin/Ambrosio enhanced ectasia total derivation value (AUC = 0.941).

**Conclusion:** The thresholds of these indices differed significantly from non-DS patients. The results highlighted the need for DS-specific cutoff values to avoid false-positive or false-negative diagnoses in this population.

**Keywords:** keratoconus, Down syndrome, corneal tomography

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**Advisor: Mauricio Maia**

**CEP Number: 22450140**

5. ABSTRACT (REQUIRED):

**Title:** Comparison between posterior vitrectomy via pars plana with or without internal limiting membrane peeling in patients with proliferative diabetic retinopathy

**Author and Co-authors:** Felipe Muralha and Mauricio Maia

**Purpose:** The study's purpose is to enhance the understanding of the surgical approach for patients with proliferative diabetic retinopathy. It aims to evaluate whether pars plana vitrectomy with internal limiting membrane peeling results in better morphological and functional outcomes compared to eyes undergoing only vitrectomy without peeling. These outcomes will be measured through central thickness in optical coherence tomography (OCT) and final visual acuity.

**Methods:** Forty patients with diabetic retinopathy indicated for surgery will be randomized into two groups: Group 1 and Group 2, for treatment with vitrectomy via pars plana with or without internal limiting membrane peeling, respectively. Patients will be randomly assigned to the two groups, and both will be operated on using the same equipment and surgical team, differing only in the performance of the internal limiting membrane peeling. Patients who undergo the peeling will have the membrane collected for histological, microscopic, and immunohistochemistry analysis. Postoperative follow-up will occur at 1, 3, and 6 months after surgery. Visual acuity tests, biomicroscopy, retinography, and optical coherence tomography (OCT) will be performed to assess functional and morphological changes before and after the procedure, as well as between the group that underwent peeling and the one that did not.

**Results:** The study is still in progress, in the phase of testing ILM samples to begin the selection of patients

**Conclusion:** The study is still in progress

**Keywords:** Diabetic retinopathy, vitrectomy, ILM peeling, immunohistochemistry

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**Advisor: Rubens Belfort Mattos Jr.**

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5. ABSTRACT (REQUIRED):

**Title:** The Rates of Retinal Nerve Fiber Layer Change in Children with Optic Disc Drusen

**Author and Co-authors:** Tais Estrela, MD1, Deborah K VanderVeen MD1, Eric Gaier, MD, PhD1,2, Gena Heidary, MD, PhD,1 Ryan A Gise MD1 1. Departments of Ophthalmology, Boston Children's Hospital, Harvard Medical School, Boston, Massachusetts 2. Picower Institute for Learning and

**Purpose:** Optic disc drusen (ODD) are calcified deposits in the prelaminar portion of the optic nerve head. Although often asymptomatic, it can damage optic nerve fibers, resulting in irreversible vision loss. This study evaluates rates of structural changes in children with ODD and risk factors associated with faster rates of retinal nerve fiber layer (RNFL) thinning.

**Methods:** This was a retrospective cohort study including 40 eyes of 22 children with ODD and 40 eyes of 20 age-, gender-, and race-matched glaucoma suspects. Subjects were required to have at least 3 optical coherence tomography (OCT) tests and a minimum of 18 months between the first and last OCT. Linear mixed models estimated RNFL changes over time. Univariable and multivariable models assessed the effect of clinical variables on rates of change.

**Results:** Children with ODD were followed for an average of  $4.1 \pm 2.5$  years. Eyes with ODD had rates of RNFL change significantly faster than the glaucoma suspect group ( $-2.01 \pm 1.53 \mu\text{m}/\text{year}$  versus  $-0.07 \pm 0.47 \mu\text{m}/\text{year}$ , P

**Conclusion:** Children with ODD demonstrate significant rates of RNFL thinning over time. Knowing the distribution of RNFL change attributable to ODD in children will enable clinicians to identify rapid progressors and/or alternative etiologies of optic nerve injury.

**Keywords:** OCT, RNFL, Optic disc drusen



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