Pediatric Eye Imaging Bibliography



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Author(s): Karen A Karp, BSNb; Agnieshka Baumritter, MSb; Denise J Pearson, COMTb; Maxwell Pistilli, MEd, MSa; Darla Nyquist, MA, APRN, CNPc; Michele Huynh, MS, ARNPd; Kelli Satnes, MS, APRN, CNPd; Rachel Keith, PhD, MSe; Gui-Shuang Ying, PhDa; Graham E Quinn, MD, MSCEa,b for the e-ROP	Training Retinal Imagers for ROP Screening.	Journal: Journal of American Association for Pediatric Ophthalmology and Strabismus	Year: 2016	Vol: Pages: 20(3): 214-219

The e-ROP Study demonstrated that nonphysicians can consistently acquire and submit quality images, with a 92% success rate in providing acceptable quality images to the e-ROP readers for evaluation. Such a system presents a way to offer preterm infants worldwide a safe means for image acquisition and an effective system for ROP evaluation. In Imaging has also provided an important teaching aid for families and medical staff to illustrate the infant's ROP status, reinforcing the seriousness of the disorder and need for careful follow-up.

Author(s):	Title:	Journal:	Year:	Vol: Pages:	
Kelley J. Bohm, Y. Pierre	Choroidal Infarction Following Ophthalmic Artery Chemotherapy.	International Journal	2018	4:16	
Gobin, Jasmine H. Francis,		of Retina and Vitreous			
Gabrielle McInerney,					
Anahita Dabo-Trubelja,					
Paul H. Dalecki, Brian P.					
Marr, David H. Abramson					

Genetic testing for known prothrombotic mutations (in genes for MTHFR, Factor V Leiden, prothrombin) was performed after infarctions were detected. Indirect ophthalmoscopy, RetCam digital photography, optical coherence tomography (OCT) and in some of the patients, fluorescein angiography was used to describe fundus findings. Characteristic findings in choroidal infarction include segmental pallor and granular fundus pigmentation on ophthalmoscopy, thinning of the choroid on OCT, and lack of choroidal perfusion on fluorescein angiography.

Author(s): Feng Chen, Dan Cheng, Jiandong Pan, Chongbin	Title: Efficacy and Safety of Retcam in Detecting Neonatal Retinal Hemorrhages-Research Article.	Journal: BMC Ophthalmology	Year: 2018	Vol: Pages: 18;202
Huang, Xingxing Cai, Zhongxu Tian, Fan Lu, Lijun Shen				

RH in healthy newborns, mostly present in Zone II with grade II and III, can be characterized in detail by RetCam. Systemic effects during the process are mild and can be revolved spontaneously. RetCam imaging is an efficient tool to analyze the clinical classification of RH. The system causes minimal stress-related responses and provides rapid recording of fundus findings by images. RetCam screening have several advantages over BIO in terms of efficacy and safety in neonatal eye examination.

Author(s):	Title:	Journal:	Year:	Vol: Pages:
H. Chan, A. Cougnard-	Screening for ROP by Telemedicine in a Tertiary Level NICU in France-Review of	Journal français	2018	41(10):926-932
Grégoire, J.F. Korobelnik,	a Six Year Period.	d'ophtalmologie		0181-5512
M.N. Delyfer, D. Touboul,				
V. Coste, J. Sarlangue, C.				
Dutheil, C. Paya				

ROP screening by Retcam image analysis has been shown to be sensitive and specific. Moreover, the use of RetCam facilitate ROP screening and allows ROP monitoring in order to decide whether the treatment is indicated.

Author(s): Philip J. DeSouza, Rajiv Shah	Title: Characterization of Blau Syndrome Panuveitis with Wide-Field Fluorescein Angiography.	Journal: American Journal of Ophthalmology Case Reports	Year: 2019	Vol: Pages: 14 (2019) 92-94
		Reports		

Observations: A 5-year-old female presented with bilateral eye pain, redness, and decreased visual acuity due to panuveitis and had a history of arthritis, tenosynovitis, and dermatitis. Similar ocular and systemic findings in the patient's mother and maternal half-brother prompted genetic testing that confirmed the diagnosis of the rare Blau syndrome. Portable Retcam and tabletop Optos wide-field fluorescein angiography congruently demonstrated retinal vascular and peripapillary leakage. The uveitis dramatically resolved after the addition of adalimumab to methotrexate. Quiescence was maintained with the substitution of infliximab for adalimumab.

Conclusions and Importance: To our knowledge, we are first to characterize Blau panuveitis retinal findings on wide-field fluorescein angiography and with the use of two different photography systems. Additionally, this report underscores the salient clinical findings of a rare disorder and suggests that robust systemic immunosuppression can effectively treat refractory ocular inflammation.

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Young patients with Coats disease who have macular exudates or large areas of retinal detachment tend to have a poor visual prognosis. Therapy is targeted toward preventing total detachment or neovascular glaucoma.⁵ Early stages of disease benefit from FA-guided laser photocoagulation of telangiectasias, as performed in our patient. This case highlights the fact that Coats disease can present atypically in girls, with bilateral ocular involvement. Pediatric patients with retinal exudative pathologies should be examined under anesthesia and imaged with RetCam FA to diagnose and treat these diseases as early as possible.

Author(s):	Title:	Journal:	Year:	Vol: Pages:
Linda A Morgan, Samiksha	Clinical comparison of ocular and systemic findings in diagnosed cases of	Clinical Ophthalmology	2018	12, 1505-1510
Fouzdar Jain, Austin Svec,	abusive and non-abusive head trauma.			
Claire Svec, Suzanne B				
Haney, Sandra Allbery, Robin				
High, Donny W Suh				

Retinal images were taken using Retcam III (Clarity Medical Systems, Pleasanton, CA, USA) in both groups. Retinal images and data were reviewed and recorded by a pediatric ophthalmologist. The following factors were collected and compared between the AHT and NAHT groups: head injury sequela, including fractures and SDHs; retinal and vitreous hemorrhages and associated systemic findings. Zone of retinal involvement was defined similarly to the description used for retinopathy of prematurity: zone I is the circle that has a radius twice the distance of the optic disk to the macula; zone II extends anteriorly to the nasal ora serrata; zone III is the remainder of the temporal retina.

Author(s): Lisa C. Bain, MD; Alexandria I. Kristensen-Cabrera, BS; Henry C. Lee, MD, MS Title: A Qualitative Analysis of Challenges and Successes in Retinopathy of Prematurity Screening.	Journal: American Journal of Perinatology Reports	Year: 2018	Vol: Pages: 8:e128–e133
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Telemedicine is a new innovation that has been identified as an adjunct to in-person ROP screening. Studies have shown telemedicine for ROP to be both safe and effective. It may help address ongoing unmet clinical needs seen in ROP screening. Furthermore, due to the subjective nature of ROP screening, having one offsite ophthalmologist might also decrease variation in interpretations of retinal images.

Author(s): Yoshihiro Yonekawa, MD; Benjamin J. Thomas, MD;	Title: Retina the cutting edge in ROP care.	Journal: Retina, the Journal of Retinal and Vitreous	Year: 2017	Vol: Pages: 0:1–18, 2017
	Retina the cutting edge in ROP care.	'	2017	0:1–18, 2017
Aristomenis Thanos, MD;		Diseases		
Bozho Todorich, MD, PHD;				
Kimberly A. Drenser, MD, PHD; Michael T. Trese, MD;				
Antonio Capone, JR., MD				

Bedside examination with binocular indirect ophthalmoscopy has been the gold standard for ROP screening. However, there is an increasing discordance between the number of premature infants requiring screening and the number of ophthalmologists performing it. Communities with limited access to ROP providers may be burdensome to isolated providers covering multiple hospitals over wide geographic areas. Lower volume and lower acuity NICUs may also not provide physicians tasked with disease surveillance with adequate experience in managing atypical or advanced stages. Photographic screening using digital fundus imaging addresses these logistic issues. Neonatal intensive care unit staff can be trained to obtain fundus images that can be forwarded to the ROP provider for interpretation. Infants with ROP findings severe enough to require bedside examination or treatment can be promptly and efficiently identified. Images of challenging cases could be easily sent for expert consultants in a timely manner. Inherently related to this topic is the complex medicolegal climate surrounding ROP. Photodocumentation is a method of demonstrating sound clinical practice and judgment, should legal action occur.

Author(s): Gaurav Bhardwaj, PhD, FRANZCO; Mark B. Jacobs, MD, FRANZCO; Frank J. Martin, FRANZCO, FRACS; Kieran T. Moran, MBBCh, FRACP; Kristina Prelog, MBBS, FRANZCO; Craig Donaldson, FRANZCO, FRACS; Ute Vollmer-Conna, BSc (Psych), PhD; Minas T. Coroneo, MD, FRACS	Title: Photographic Assessment of Retinal Hemorrhages in Infant Head Injury— Childhood Hemorrhagic Retinopathy Study.	Journal: Journal of American Association for Pediatric Ophthalmology and Strabismus	Year: 2017	Vol: Pages: 21:28-33	
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A major strength of this study is that in all patients findings were verified by more than one observer. A large proportion of patients (81%), and all those who had RH, had digital photographic documentation. This allowed us to study the pattern of retinal findings in greater detail than has been previously possible.

1 ' ' '	Title: Application of RetCam III Wide-Field Fundus Imaging in Screening of Retinoblastoma-Research Article.	Journal: Biomedical Research	Year: 2017	Vol: Pages: 28 (11): 5158-5161
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Retcam III has important role in grading/treatment and follow-up of RB. Retcam III wide-field fundus imaging is a safe and reliable screening method for early discovery of fundus diseases.

It provides wide-field visualization of the retina, as well as high-definition and real-time image, and allows for observation and recording of fundus image in infants. The accuracy of examination allows doctors to establish further treatment regimen for infants with RB according to changes in condition of the fundus. In addition, it helps doctors visualize the RB tumor at different phases. It allows for clear visualization of fundus in infants and can easily and precisely identify lesions in peripheral location's.

RetCam is an important tool for image storage and comparison, clinical teaching and research. It has important value for the screening of RB and is a system worthy of widespread use in clinical screening of RB, providing convenience and assistance for the treatment.

Author(s): Li-Hong Li, MD; Wei-Chi Wu, MD, PhD; Na Li, MD; Jun Lu, MD; Guo-Ming Zhang, MD; Jun-Yang Zhao, MD; Yan Ma, MD	Title: Full-Term Neonatal Ophthalmic Screening in China-Review of 4-year outcomes.	Journal: Ophthalmic Surg Lasers Imaging Retina	Year: 2017	Vol: Pages: 48:983-992
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The RetCam digital imaging system provides high- quality and accurate data, with a capacity to compare and track disease over time, as well as the ability to transfer information between clinicians. As part of a comprehensive newborn health examination process, this imaging system may prove invaluable in discovering ocular pathology at an early stage. The resulting images can also be sent digitally, making its use in telemedicine a possibility. The background data of these images taken during the neonatal stage can also provide useful information as a reference for cases of ocular pathology detected at school age or later.

Author(s): Shreyas Temkar, Shorya V. Azad, Rohan Chawla, Sourav Damodaran, Gaurav Garg, Harika Regani, Shaikh Nawazish, Nimmy Raj, Vatsalya Venkatraman	Title: Ultra Widefield Fundus Angiography in Pediatric Retinal Vascular Diseases.	Journal: Indian Journal of Ophthalmology	Year: 2019	Vol: Pages: 67:788-94	
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RetCam-assisted FFA is an extremely useful investigation in the management of pediatric retinal vascular diseases. Wide field angiographic images help to analyze and document subtle peripheral vascular pathologies that can be missed on clinical examination. RetCam FFA guides the surgeon in making crucial therapeutic and retreatment decisions.

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