




# Study Spotlight: CLARUS UWF in Pediatric Care

## Non-contact widefield retinal imaging in ROP

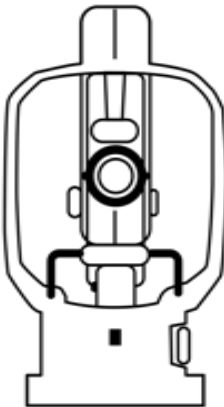




Seeing beyond

### Source

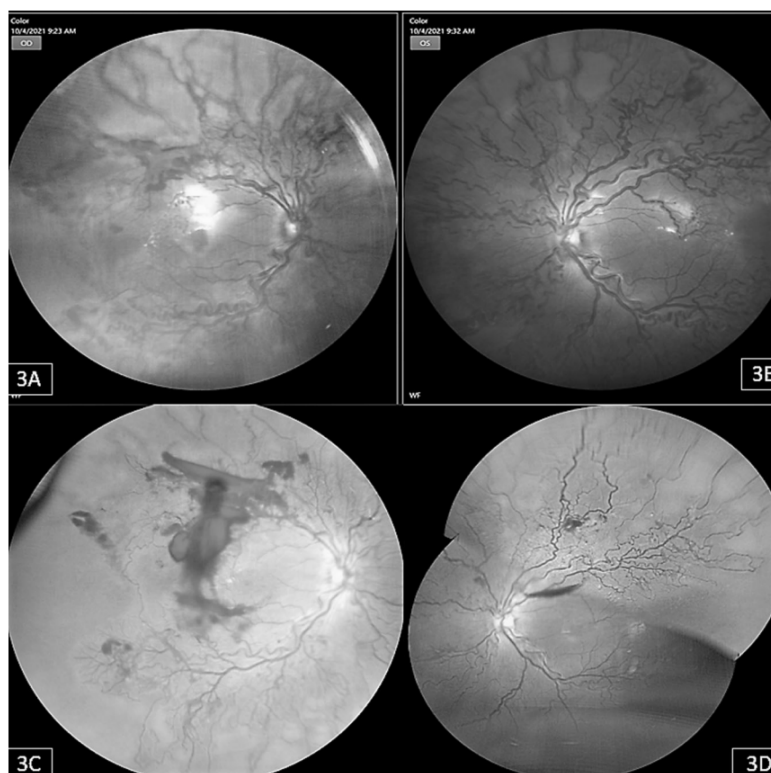
 <p><b>Title</b> Non-contact widefield neonatal retinal imaging (NC-WFI) for retinopathy of prematurity using the Clarus 700 high resolution true colour reflectance imaging</p>	 <p><b>Authors</b> Akash Belenje, Rakasi Ugandhar Reddy, B. Optom, Komal Agarwal, Deepika C. Parmeswarappa and Subhadra Jalali</p>	 <p><b>Publication</b> Published October 4, 2022 The Royal College of Ophthalmologists <a href="https://doi.org/10.1038/s41433-022-02273-2">https://doi.org/10.1038/s41433-022-02273-2</a></p>
---	--	---

### Methodology

<p><b>Non-contact widefield fundus imaging</b></p>  <p><b>CLARUS 700 UWF</b></p> <ul style="list-style-type: none"> <li>• Since babies cannot fixate, custom montage images were constructed with CLARUS</li> <li>• All babies examined with indirect ophthalmoscope after mydriasis for ROP grading and CLARUS high resolution, true color UWF imaging</li> <li>• Sample size: 44 Eyes of 22 pre-term babies</li> </ul>	<p><b>Evaluation Criteria</b></p>  <p>Retinopathy of prematurity (ROP) grading was done according to the revised ICROP (International Classification of Retinopathy of Prematurity) 2005 classification.</p>	<p><b>Results</b></p>  <p>The babies were held in the modified 'flying baby position' with one arm supporting the chest / chin and the other hand supporting the head.</p> <ul style="list-style-type: none"> <li>• 13 unique cases of retinopathy of prematurity with images was captured on Clarus 700.</li> <li>• None of the babies developed apnoea, cyanosis or feed intolerance during or after the procedure.</li> </ul>
---	--	---

### Conclusions

- Retinopathy of prematurity is a preventable blindness when screened and treated promptly.
- CLARUS UWF imaging is less stressful for the newborn due to faster rate of image acquisition and non-contact nature has no risk of infection.
- CLARUS true color imaging improves accuracy of ROP diagnosis and staging when compared to pseudo color imaging of OPTOS
- The non-contact imaging modality required less training to eye care professionals; it can be used in post-surgical eyes without any risk of infection and more importantly was less stressful for the newborn because of faster rate of image acquisition and non-contact nature.
- The pseudo colour image acquisition by Optos could be a disadvantage as previous reports have shown that staging the ROP at the periphery at times becomes difficult.



Aggressive Posterior Retinopathy of Prematurity (APROP) with preretinal hemorrhage. Right eye (3A) and left eye (3B) shows plastered fibrin along the arcades. 1 week status post Anti VEGF treatment for APROP: Both eyes (3C and 3D) show reduced Plus disease (vascular dilation and tortuosity of posterior pole vessels)

Field of view (FOV):

Right eye single widefield WF image: 133-degree wide by 133-degree high FOV

Left eye ultra-widefield UWF image: 200-degree wide by 133-degree high FOV from 2 montaged images