

Smartphone-based fundus documentation in retinopathy of prematurity

We read with interest the article "Smartphone-guided wide-field imaging for retinopathy of prematurity in neonatal intensive care unit – A Smart ROP (SROP) initiative."^[1]

As we described in 2015, smartphones can be used effectively in the screening of retinopathy of prematurity (ROP).^[2] The concept of the one-handed technique was described by Sharma A *et al.*^[3] We also described the use of DIYretCAM as a cost-effective smartphone imaging technique for the peripheral retina using the one-handed technique with simultaneous scleral depression, and for the first time, smartphone-based stereoscopic imaging ROP^[4] demonstrated once again in this stereo pair of stage 3 ROP [Fig. 1]. The following suggestions can make the technique better:

1. Using the manual focus mode during the video capture gives images that are focused much better than that taken with the autofocus mode. The manual focus mode is available in recent apps like HopeScope (<https://itunes.apple.com/us/app/hopescope/id1331409701?ls=1&mt=8>) and Ullman Indirect app (<https://itunes.apple.com/us/app/ullman-indirect/id1243282866?mt=8>).
2. A 20D condensing lens gives a magnified image, and with simultaneous scleral depression, excellent images of the periphery can be captured.
3. Cross polarization with a pair of polarizers placed perpendicular to each other, with one placed over the flash of the phone and other oriented 90° opposite to the former over the camera, will help eliminate the Purkinje images or reflection artifacts from the lens, to a large extent. But cross polarization has a disadvantage of lowering the overall exposure of the image. With newer phone cameras having good low light sensitivity, excellent images can be captured even with cross polarization as demonstrated in the video showing popcorn lesions in ROP [Video Clip 1].

We congratulate the authors for this well-done study which strongly supports our initial observations.

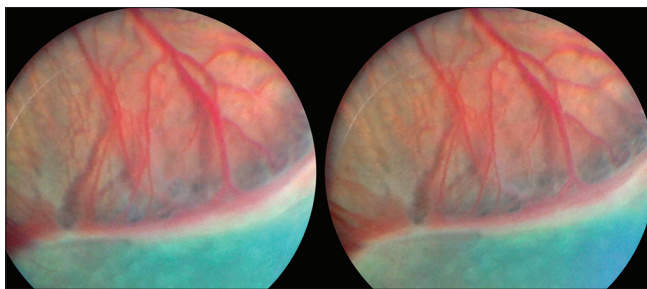


Figure 1: Stereoscopic pair (parallel view) showing stage 3 ROP

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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DOI:

10.4103/ijo.IJO_1080_19

Cite this article as: Raju B, Raju NS, Akkara JD, Pathengay A. Smartphone-based fundus documentation in retinopathy of prematurity. *Indian J Ophthalmol* 2019;67:1909.

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