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## Anterior segment photography with intraocular lens (ASPI) – An innovative resident education tool

Dear Editor,

Residency in ophthalmology lays the foundation for the trainee to conduct a safe and independent practitioner of the subject. The initial training phase involves an in-depth knowledge of using the slit lamp to analyze the anterior and posterior segment structures. Following the examination of a patient, a relevant case-based discussion with a senior colleague forms an important hallmark of residency. This training can be enhanced or aided with the help of ocular photographs. Conventional slit-lamp photography requires the usage of expensive adapters and cameras to obtain good anterior-segment images. Smartphone usage has been rapidly expanding in the field of ophthalmology for a broad range of purposes, including ocular photography, patient education, telemedicine, and educational purposes.<sup>[1]</sup>

We used an anterior segment intraocular lens (ASPI), an innovative tool attached to the back of the smartphone camera, to capture anterior segment findings.<sup>[2]</sup> As residents, this tool is extremely useful in peripheral centers devoid of slit lamps or in emergency setups to image the ocular adnexa, ocular surface, and aid in the diagnosis of an

anterior segment pathology [Figs. 1 and 2]. It can also be used to present clinical images for presentations, conferences, symposiums, publishing scientific papers, or academic discussions. These pictures can be shared online with experts or seniors for case-based discussions and decisions on treatment. Photos taken directly with the smartphone held close to the eye are often out of focus, while the macro lens attached to the smartphone camera is of low clarity and resolution.<sup>[3]</sup> This setup is also useful for bedridden and ICU patients as opposed to slit lamps, which are static and require the patient to sit in front of the examiner. Patients can be shown these clear magnified clinical images for better patient compliance and for imaging prognosis after treatment. Thus, ASPI is an innovative cost-effective essential tool for every resident for case discussions, treatment opinions, publications, and photo documentation, especially in rural and emergency setups devoid of slit lamps.

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### Conflicts of interest

There are no conflicts of interest.



**Figure 1:** (a) A 20-D intraocular lens (IOL) attached to a smartphone (iPhone 5S) constituting anterior segment photography with intraocular lens (ASPI); (b) Lateral view of ASPI; (c and d) An ophthalmology resident imaging the patient's anterior segment using ASPI in a peripheral vision center and in a cataract screening camp; Anterior segment images obtained using ASPI, (e) Posterior polar cataract; (f) Electric shock-induced cataract; (g) Pyramidal cataract; (h) Iris-claw lens as Phakic IOL; (i) YAG capsulotomy opening; (j) Anterior lens capsule phimosis





**Figure 2:** Ocular adnexal and anterior segment images obtained using ASPI, (a) Demodex blepharitis; (b) Phthiriasis palpebrarum infestation; (c) Hard tick infestation; (d) Canaliculitis; (e) Conjunctival cyst; (f) Meibomian gland carcinoma; (g) Capillary Hemangioma; (h) Pterygium; (i) Ocular surface squamous neoplasia; (j) Ophthalmomyiasis; (k) Natamycin induced corneal reticular oedema; (l) Corneal tear; (m) Dendritic Ulcer; (n) Traumatic correctopia; (o) Iridocorneal endothelial syndrome; (p) Iris cyst; (q) Iris coloboma; (r) Posterior synechiae; (s) Corneal sutures; (t) Pseudoexfoliation syndrome

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