

## Letter to the Editor

### Rural pre-operative cataract assessment on the Lions Outback Vision Van

The Lions Outback Vision Van was launched in March 2016 and is a mobile eye clinic providing ophthalmology care to regional and remote Western Australia. For the first time, we have been able to bring essential equipment to regional and remote towns to improve the delivery of our ophthalmology service (Figs 1,2).

Equipment available on the Vision Van include 3D OCT-1 Maestro Optical Coherence Tomographer (Topcon Corporation, Tokyo, Japan), OCTOPUS 600 Perimeter (Haag-Streit AG, Köniz, Switzerland), Pentacam (Oculus, Wetzlar, Germany), IOLMaster 500 (Carl Zeiss, Jena, Germany), California ultra-widefield retinal imaging (Optos, Dunfermline, UK) and Compact Touch A/B Scanner (Quantel Medical Inc., Cournon d'Auvergne Cedex, France).

We present two cases that highlight the benefits of this equipment during pre-operative assessment, which were previously unavailable at rural locations.

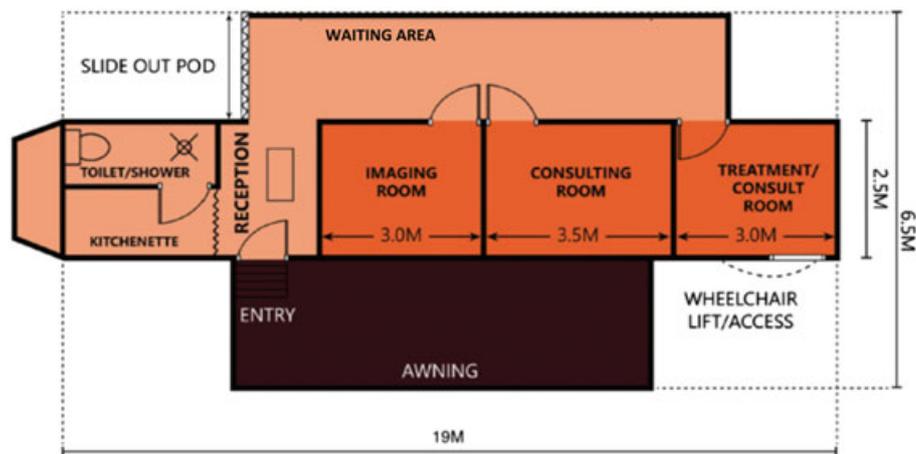
A 63-year-old man was seen in an ophthalmology clinic on the Vision Van for pre-operative assessment for left eye cataract surgery to be performed the next day at the regional hospital. The patient had a long-standing cataract and poor visual acuity following blunt trauma to his left eye as a teenager. The patient had a history of diet-controlled diabetes mellitus and hypertension, and no other significant ocular history. He had been seen 6 months prior at a rural outreach ophthalmology clinic where he was waitlisted for left cataract surgery.

On assessment, visual acuity measured 6/9 in the right eye and hand movements at 1 metre in the left eye. On anterior segment examination, inferotemporal iridodialysis was noted, and a posterior subcapsular cataract (1+) with inferior cortical spokes (2+). Bilateral dilated fundal exam noted peripapillary atrophy, inferior retinal scarring and the optic disc appeared tilted. Intraocular pressures were normal.

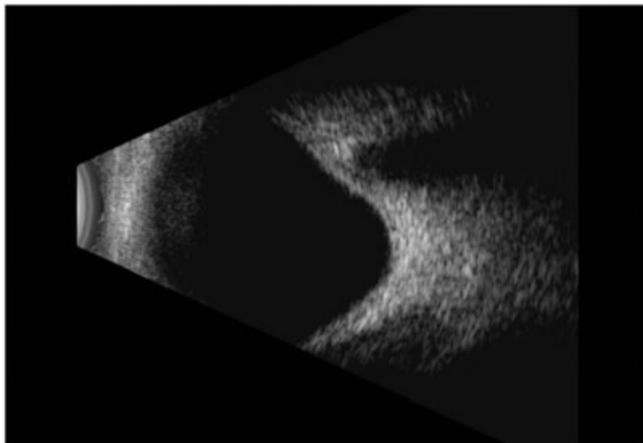
To complete the pre-operative assessment, biometry using the IOLMaster 500 was performed and noted an axial length of 25.66 mm in the left eye, compared with 22.48 mm in the right. This discrepancy was verified on B-scan ultrasonography where a posterior staphyloma was imaged as shown in Figure 3. Given the likelihood of post-operative aniseikonia, surgery was cancelled, and the patient conservatively managed.



Figure 1. Lions Outback Vision Van.



**Figure 2.** Floor plan of the Lions Outback Vision Van.



**Figure 3.** B-scan ultrasonography of left eye through posterior pole.

Staphyloma refers to peripapillary or macular ectasia of the posterior sclera because of focal thinning and expansion, and is associated with choroidal neovascular membranes, macular holes and retinal detachments.<sup>1,2</sup> In the setting of cataract surgery, it has been shown that the presence of posterior staphyloma results in lower post-operative best-corrected visual acuity.<sup>3</sup> Previously, patients undergoing cataract surgery in regional hospitals would require hand-held keratometry and A-scan to determine intraocular lens power and often only the operated eye would be measured. It is therefore likely that the presence of a posterior staphyloma may not have been identified given the symmetrical fundal examination.

The second case is a 78-year-old man referred by an optometrist for consideration of left cataract surgery with longstanding poor vision in his right eye. During the preoperative assessment on the Vision Van, the patient reported gradual deterioration of the vision in his left eye over the last 4 months. It was revealed that he had been diagnosed 40 years ago with a right 'conical cornea' and was offered a corneal graft but

declined surgery. The patient had no history of diabetes. Visual acuity on presentation was 6/60 in the right (pinhole 6/48) and 6/18 in the left (no improvement on pinhole). On slit lamp examination, Vogt's striae were noted the deep stroma of the right eye however was negative for Munson's sign. Keratoconus was confirmed on Pentacam imaging of the right cornea.

On dilated fundal examination of the left eye, intraretinal haemorrhage was noted near the inferior arcade, consistent with a branch vein occlusion. Ocular coherence tomography of the left macula revealed macular oedema. The patient was cancelled from the surgical waitlist and treatment with intravitreal Avastin was initiated.

Both these cases highlight the benefit of the additional equipment provided by the Vision Van in detecting pathology that would otherwise result in a poor post-operative refractive outcome. The provision and access to specialized ophthalmology equipment is an example of improving, and not merely providing, specialist eye care to patients in rural and remote locations.

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## REFERENCES

1. Bowling B. *Kanski's Clinical Ophthalmology: A Systematic Approach*. Philadelphia: [Imprint]Saunders, 2015.
2. Steidl SM, Pruett RC. Macular complications associated with posterior staphyloma. *Am J Ophthalmol*. 1997; **123**: 181.
3. Navon SE, Edge R. Outcome of cataract surgery associated with posterior staphyloma. *J Cataract Refract Surg*. 1999; **25**: 83–90.