

likelihood of trainees being assessed in more complicated scenarios.

Accepting the value of simulation and an enhanced programme of competency-based assessments, we suggest that stating a numerical minimum requirement of cases (regardless of the number chosen) is superfluous and potentially falsely reassuring. Whereas one trainee may attain a high level of competence and confidence after completing a relatively low number of challenging cases, others may still be deficient in managing difficulties after many more uncomplicated cases. We acknowledge that numerical minimum requirements are provided for other subspecialty procedures, and this is appropriate for general ophthalmology training because further subspecialist experience is usually gained during fellowships before taking up a substantive consultant post. However, cataract surgery continues to be performed by most ophthalmologists, regardless of subspecialty or fellowship, and we should therefore be confident that all trainees are adequately trained and practised in the management of complications by the culmination of the training programme.

Conflict of interest

The authors declare no conflict of interest.

References

- 1 Bishop F, Spencer F. Comments on 'Confidence of ophthalmology trainees in the management of posterior capsule rupture and vitreous loss'. *Eye* 2016; epub ahead of print 4 November 2016; doi:10.1038/eye.2016.228.
- 2 Turnbull A, Lash SC. Confidence of ophthalmology specialist trainees in the management of posterior capsule rupture and vitreous loss. *Eye* 2016; 30(7): 943–948.
- 3 Spencer F, Bishop F. Important OST curriculum changes: introduction of the Entrustable Professional Activity tool for managing a cataract operating list (EPA1). Email distributed to all members, Royal College of Ophthalmologists, 12 September 2016.

AMJ Turnbull and SC Lash

Department of Ophthalmology, University Hospital Southampton, Southampton, UK
E-mail: andyt@doctors.org.uk

Eye (2017) 31, 661–662; doi:10.1038/eye.2016.223;
published online 11 November 2016

Sir, Response to 'Toy' laser macular burns in children: 12-month update

We read with interest the article by Raof *et al*¹ and would like to share our experience of paediatric laser eye injuries in Northern Ireland since setting up at a rapid access Paediatric Ophthalmology Priority Consultation Clinic in September 2013 in the Royal Victoria Hospital, Belfast.

To date, we have assessed 10 children with macular laser burns that have been either inadvertently self-inflicted or allegedly caused by a laser being shone into the child's eye by another child (Table 1). In the seven 'self-inflicted' cases, the toy laser in question was bought abroad or over the internet. Not all children volunteered a history of laser exposure on initial questioning, but after some discussion, it became evident that they had access to toy lasers either at school or through friends.

Interestingly, all of our 10 cases to date have presented in autumn ($n=8$) or winter ($n=2$). We speculate that this apparent 'seasonal' preponderance correlates with children bringing their 'toy lasers' to school after the summer holidays and inadvertently causing laser eye injuries; alternatively, children may only become aware of the visual deficits as they struggle to concentrate on their school work after the summer break.

Four cases were referred after optometric assessment identified asymptomatic macular changes when parents brought their children for routine eye testing. It is highly likely that there are many more asymptomatic children with macular laser burns who have not yet been identified.

It is reassuring that even the most severely affected patient in our cohort with presenting vision of 6/60

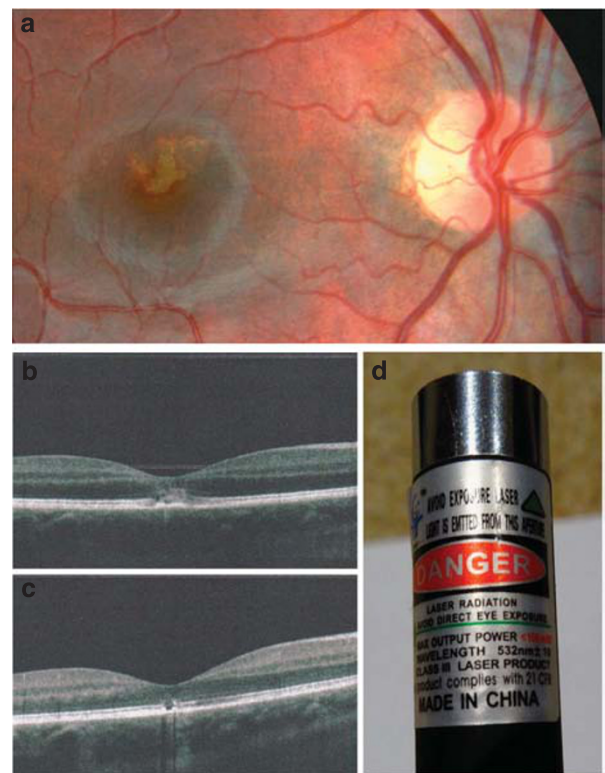


Figure 1 Images for Case 1. (a) Right macula showing central yellowish vitelliform-like lesion at initial presentation. (b) OCT of right fovea at initial presentation when vision was 6/60 revealing a full-thickness hyper-reflective column at the fovea extending to the retinal pigment epithelium (RPE). (c) OCT of right fovea 12 months following presentation when vision had improved to 6/9 revealing focal disruption of the photoreceptor layer and RPE. (d) Causative laser bought while on holidays in Puerto Rico.

Table 1 Characteristics of children with laser eye burns in Northern Ireland

Case	Presenting date at clinic	Gender	Age	History	Affected eye		Presenting vision		Vision at final clinic visit		History of laser exposure
					RE	LE	RE	LE	RE	LE	
1	9th September 2013	M	9	Sudden blurred vision × 1 week	Right	6/60	6/6	6/9 at 12 months	6/6	Laser bought in Puerto Rico	
2	11th December 2013	M	12	Incidental finding by optometrist	Right	6/12	6/6	6/7.5 at 4 months	6/6	Laser bought in Turkey	
3	29th September 2014	M	15	Noted blurred vision × 1 month	Right	6/7.5	6/4	NA	NA	Laser bought online	
4	2nd October 2014	M	13	Incidental finding by optometrist	Both	6/6	6/5	NA	NA	Laser bought online	
5	29th October 2014	M	16	Sudden blurred vision 1 day	Right	6/7.5	6/6	NA	NA	Friend had laser in classroom	
6	12th November 2014	M	14	Noted blurred vision × 3 weeks	Both	6/7.5	6/6	NA	NA	Laser bought in Spain	
7	26th January 2015	M	11	Incidental finding by optometrist	Left	6/6	6/6	NA	NA	Friend had laser in classroom	
8	30th September 2015	F	13	Sudden blurred vision × 2 weeks	Left	6/5	6/18	6/5 at 4 months	6/5 at 4 months	Boys at school shining laser	
9	14th October 2015	F	12	Noted blurred vision × 1 month	Right	6/9	6/6	NA	NA	Laser bought abroad	
10	30th November 2015	F	15	Incidental finding by optometrist	Right	6/5	6/6	NA	NA	Laser bought online	

NA indicates not applicable as patient discharged after initial visit.

regained vision to a best-corrected Snellen acuity of 6/9 (Figure 1). However, all 10 cases demonstrated persistent retinal pigment epithelium disturbance on OCT that may infer a life-long increased risk for the development of choroidal neovascular membranes. Furthermore, more serious presentations with full-thickness macular holes and premacular subhyaloid haemorrhages have previously been described.²

Following concerns regarding the emerging trend of children with laser-induced eye injuries, we alerted the Public Health Authority in Northern Ireland and the issue was highlighted in the local media in December 2014.³ We support the call by Raouf *et al* for a UK-wide public health campaign to educate children and parents on the dangers of so-called unregulated 'toy lasers' sold abroad and online. We would also suggest that this campaign could optimally be timed for the start of the school year.

Conflict of interest

The authors declare no conflict of interest.

References

- 1 Raouf N, O'Hagan J, Pawlowska N, Quhill F. 'Toy' laser macular burns in children: 12-month update. *Eye* 2016; **30**: 492–496.
- 2 Alsulaiman SM, Alrushood AA, Almasaud J, Alzaaidi S, Alzahrani Y, Arevalo JF *et al*. High-power handheld blue laser-induced maculopathy: the results of the King Khaled Eye Specialist Hospital Collaborative Retina Study Group. *Ophthalmology* 2014; **121**(2): 556–572.
- 3 Public Health Authority Northern Ireland. Available at: <http://www.publichealth.hscni.net/news/laser-pointer-eye-injury-warning> (accessed on 11 December 2014).

E Mc Loone and M O'Neill

Department of Ophthalmology, Eye and Ear Clinic,
Royal Victoria Hospital, Belfast, UK
E-mail: eibhlin.mcloone@belfasttust.hscni.net

Eye (2017) **31**, 662–663; doi:10.1038/eye.2016.247;
published online 11 November 2016

Sir, Response to 'Comment on 'Toy' laser macular burns in children: 12-month update'

We thank Ms Mc Loone and Dr O'Neill for their response to our article. It is with dismay, however, that we see another case series of retinal laser injuries caused by recreational laser devices in children. The authors highlight a number of points that we have also encountered in dealing with such injuries; namely that on-line and street vendors are not appropriate places from which to acquire laser devices. They also highlight that children may not be forthcoming regarding a history of exposure to laser devices, and that clinicians must therefore be aware of laser-induced retinal injury and its clinical features, which include a macular vitelliform-like lesion in the acute stage and, most commonly, retinal pigment epithelial disturbance in the chronic phase.^{1,2}