

Response ID ANON-QCCC-Z8E2-3

Submitted to **Laser pointers: call for evidence**

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About you

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What is your organisation (if applicable)?

Comment here:

The Royal College of Ophthalmologists

Please select a respondent type

Charity or social enterprise

Please tick this box if you would like your response to be treated as confidential

Please treat my response as confidential:

No

Nature of the problem

1 What do you consider to be the scale of the problem with laser pointers? Is the problem specific to high-powered laser pointers (those with a strength of 5 mW or above), or a particular class of laser pointers? What evidence do you have to support your view?

Comment here:

The Royal College of Ophthalmologists ('the College') is aware of many cases of retinal burns from handheld laser pointers and mostly affecting children and young people. A national survey of UK ophthalmologists reported 159 incidents of eye injuries from laser pointers, mainly affecting children and young people. In several cases we are aware that the offending laser pointers were of more powerful classification when formally tested than the class labelled on the laser pointer. Ophthalmologists have drawn attention to such cases in a number of publications in Eye and other journals. Visual problems in children secondary to laser misuse, from laser which are often classed as toys, are a mounting concern. Damage may be self inflicted or sometimes is due to lasers being pointed at them by other children. Children are at greater risk of laser pointer injuries than adults as they are intrigued by their appearance, are less likely to understand the dangers or use them safely and, in addition, may lack protective mechanisms of blinking and gaze aversion that adults exhibit and furthermore have clear ocular media which provides little protection from laser injury. If lasers are looked at, even if only for a few seconds, acute and chronic damage to the macula, the central area of the retina used for detailed vision, may occur. The long term damage shows up on retinal Optical Coherence Tomography (OCT) scans. The visual acuity can be dramatically reduced as well as colour vision, and significant permanent visual impairment can occur. There is little in the way of effective treatment, although recently in some cases vitreoretinal surgery has been attempted with limited improvement.

2 How well do you think the current legislation is working? Is the current guidance on safe use of laser products sufficient?

Comment here:

We feel there is room for improvement in these matters. The potential for retinal damage means that this issue should be taken seriously and users and the public, of all ages, need to be more aware of the hazards of laser pointers and be as protected as possible by legislation. We have particular concerns about so called laser toys and about laser pointers being in the hands of children or adults with behavioural or learning difficulties. The classification of laser pointers in various jurisdictions and the advice by Public Health England in the UK does not, in our opinion, take into account the potential and actual increasing ocular harm from prolonged self-inflicted exposure as occurred in the cases we are aware of and greater protection is required. In addition, we are very concerned about the availability of misclassified laser pointers and the increasing availability of cheaper and more powerful handheld laser pointers.

Colin Swift from The Christie, tested 6 laser pointers obtained from

an internet retailer and measured output powers from these devices that ranged between 45mW to 91mW. At least 3 of these devices were mislabeled as having output powers of <1mW. This study from Australia illustrates this concern <http://ieeexplore.ieee.org/document/7591885/>

3 Is the current guidance on manufacturing and importing laser pointers sufficient?

Comment here:

We feel there is room for improvement in these matters and have concern about online purchases of laser pointers from outside the European Union. Laser pointers and so called laser toys are becoming cheaper as laser technology advances. Legislation covers the manufacture and supply of laser products in the European Union and includes British Standard on Laser Safety. Lasers are grouped into 'Classes' according to their potential for harm. The former Health

Protection Agency now part of Public Health England (PHE) recommended that so called 'toy' lasers should be British Standard Class 1 lasers or less powerful. Class 2 laser is limited to 1milliWatt (mW) in the visible (400-700nm) range. The Food and Drug Administration (FDA) in the USA recently alerted consumers about the risk of injury from high-powered laser pointers. FDA regulations limit the energy output of hand-held laser pointers to 5mW.

4 Do you have any further evidence about the nature and misuse of laser pointers?

Comment here:

The College has concern about misuse of powerful laser pointers by children and youths. Children may be reluctant to admit to abuse of toy lasers. Parents may be unaware of the potential ocular hazards of these items and which are increasingly available in shops, markets and online. Lasers entering the UK must all be labelled appropriately or prevented from entering the country. High powered lasers should not be available to the general public and children. The public, children and those involved in teaching or schools need to be better educated about the risks.

Legitimate uses and relevant power levels

5 What legitimate uses are there for high-powered laser pointers?

Comment here:

There is a role for laser pointers in certain engineering and astronomy tasks in the hands of appropriately trained professionals. The need for laser pointers in lectures has declined as the lecturer can use a computer mouse to highlight areas of interest in digital educational presentations. Photographic slide based educational presentations are now unusual. The College view is that lasers pointers are not toys and in our opinion powerful lasers should not be in the hands of children.

6 Have you ever purchased, sold or made a laser pointer? If so, can you provide more information about where you bought or sold the product (or its component parts), and what the intended use was?

Comment here:

No

7 (Enforcement Bodies) Do you know/can you estimate the number of manufacturers, retailers, importers and/or distributors within your Local Authority area?

Comment here:

No

Specific problem of power and measurement

8 What strength laser pointers do you make/sell? What is the price of each strength laser pointer that you make/sell? Is this a seasonal product (e.g. do you sell more at Christmas)? How many do you sell annually?

Comment here:

N/A

9 What is your target market?

Comment here:

N/A

Policy options under consideration

10 (If you are an enforcement authority) Have you undertaken any enforcement actions with respect to laser pointers, and if so what were they?

Comment here:

N/A

11 (If you are an enforcement authority) What do you estimate as being the level of compliance with the General Product Safety Regulations for laser pointers in your area? On what evidence do you base this?

Comment here:

N/A

12 Do you think a licensing system to control the sale and purchase of laser pointers would be effective?

Comment here:

Yes, it would reduce the availability of unsafe products and educate the public further in the dangers. A licensing system would likely deter some people from buying them. It would also make it difficult for the general consumer to purchase them. Unless rigorously enforced it is unlikely to stop all internet sales.

13 What do you estimate the costs of implementing a licensing system to be? How should these be recovered?

Comment here:

14 How might a licensing regime operate? Who should administer a licensing system? Who should enforce it?

Comment here:

15 Are you aware of any other licensing systems in the UK or in other countries – either for laser pointers or for similar products - which might provide the Government with a useful comparison?

Comment here:

The Royal College of Ophthalmologists believes that New Zealand and Australia have licensing systems in place.

16 Do you think that a ban on advertising laser pointers would be effective? Why?

Comment here:

Unknown

17 How else might Government and other public authorities increase public awareness about the potential dangers of laser pointers?

Comment here:

The Royal College of Ophthalmologists would welcome a public awareness campaign on the hazards of laser pointers, especially for parents and teachers of children.

18 How else do you think that the supply of high-powered laser pointers could be restricted? Why?

Comment here:

19 Do you have any other comments or views which might inform the Government's recommendations?

Comment here:

We would welcome funding for further research on the epidemiology of laser pointer eye injury in the UK and be willing to be involved in such projects.