

The importance and challenges of evidence-based practice in optometry

Professor John Lawrenson
*Centre for Applied Vision Research
City University of London*

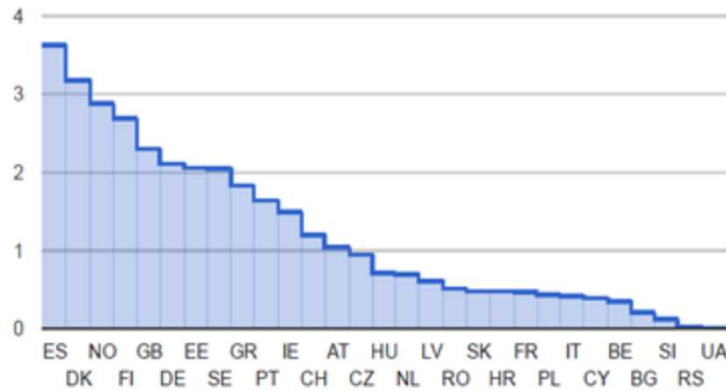
Trusted evidence.
Informed decisions.
Better health.



Relative size of the optometry profession



Number of optometrists per 10K of population



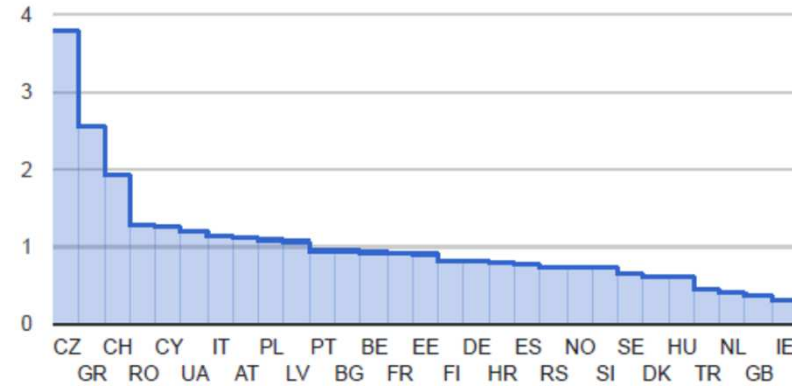
15,000 registered optometrists



2.3

United Kingdom(GB)

Number of ophthalmologists per 10K of population



1,397 consultant ophthalmologists



0.38

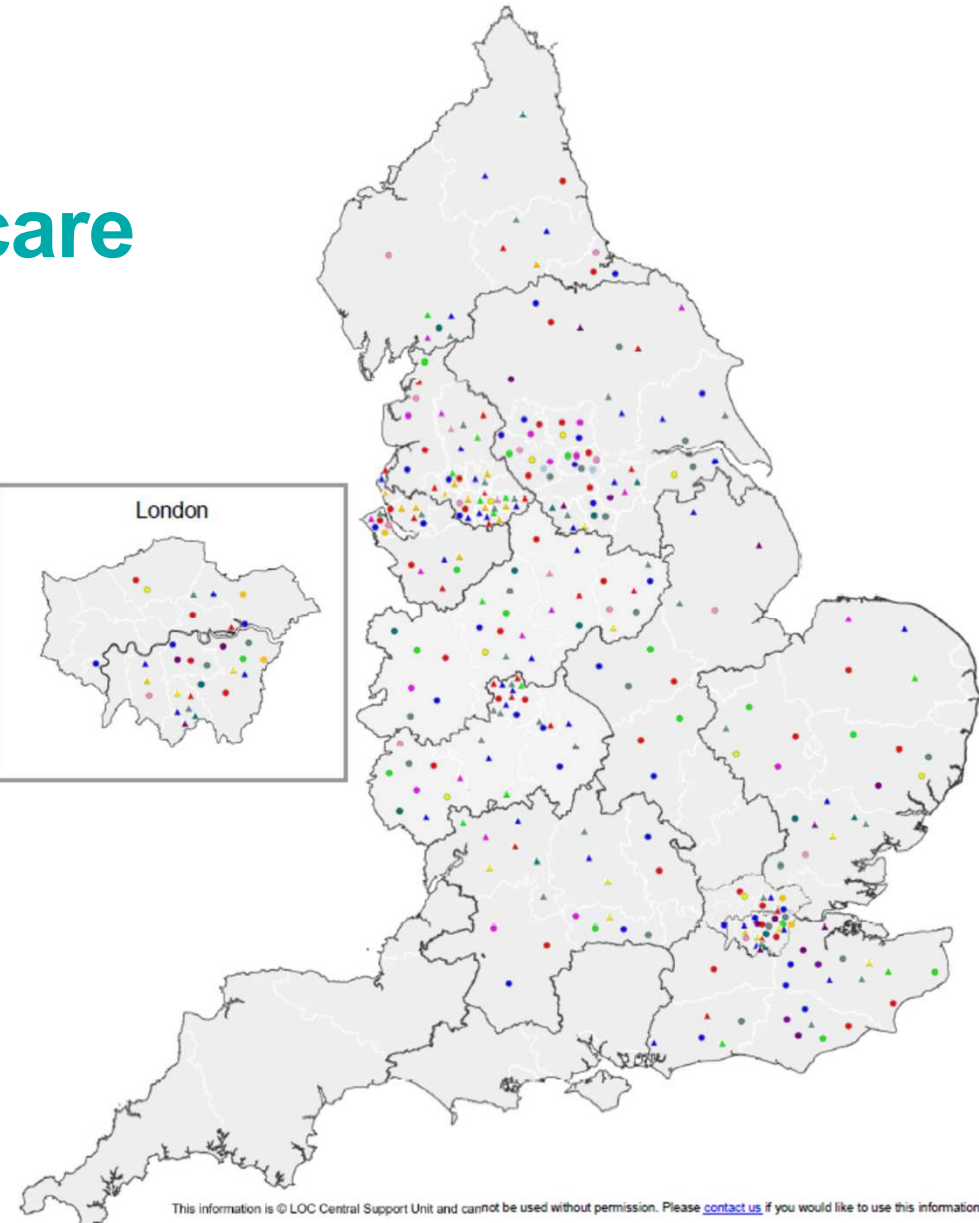
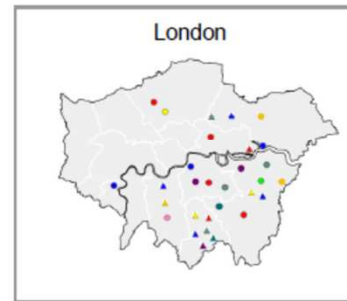
United Kingdom(GB)

Evolving scope of optometric practice

- The traditional role of optometrists involves sight testing, the provision of optical appliances and opportunistic screening for eye disease as part of General Ophthalmic Services
- In recent years the scope of community optometric practice has expanded to encompass roles in referral refinement (e.g. glaucoma and cataract) and the treatment of a range of non sight-threatening eye conditions
- Specialist hospital-based optometrists continue to provide key roles in glaucoma and medical retina clinics and eye casualty

Community Eyecare Services

- Cataract Post-op
- Cataract Referral
- Children's Vision
- Glaucoma Referral Refinement
- Glaucoma Repeat Readings
- Learning Disabilities
- Low Vision
- OHT Monitoring
- Ophthalmology Referral Triage
- Minor Eye Conditions Service
- Specialist Contact Lens Service
- Stable Glaucoma Monitoring



Minor Eye Problems?



NHS

Sore eyes? Red eyes?
Visual disturbance?

Book your **FREE NHS** appointment here

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Evidence-based practice and optometry

- Given their role in case-finding optometrists need to be conversant with the evidence regarding diagnostic test accuracy
- With the expansion of their scope of practice it is becoming increasingly important that optometrist's treatment decisions are supported by high-quality clinical evidence
- Since the majority of their patients are disease-free optometrist's also have an important role in preventative eye care and therefore should be aware of the evidence underpinning strategies that target modifiable risk factors

Cochrane Reviews on Nutritional Supplementation

Antioxidant vitamin and mineral supplements for preventing age-related macular degeneration (Review)

Evans JR, Lawrenson JG

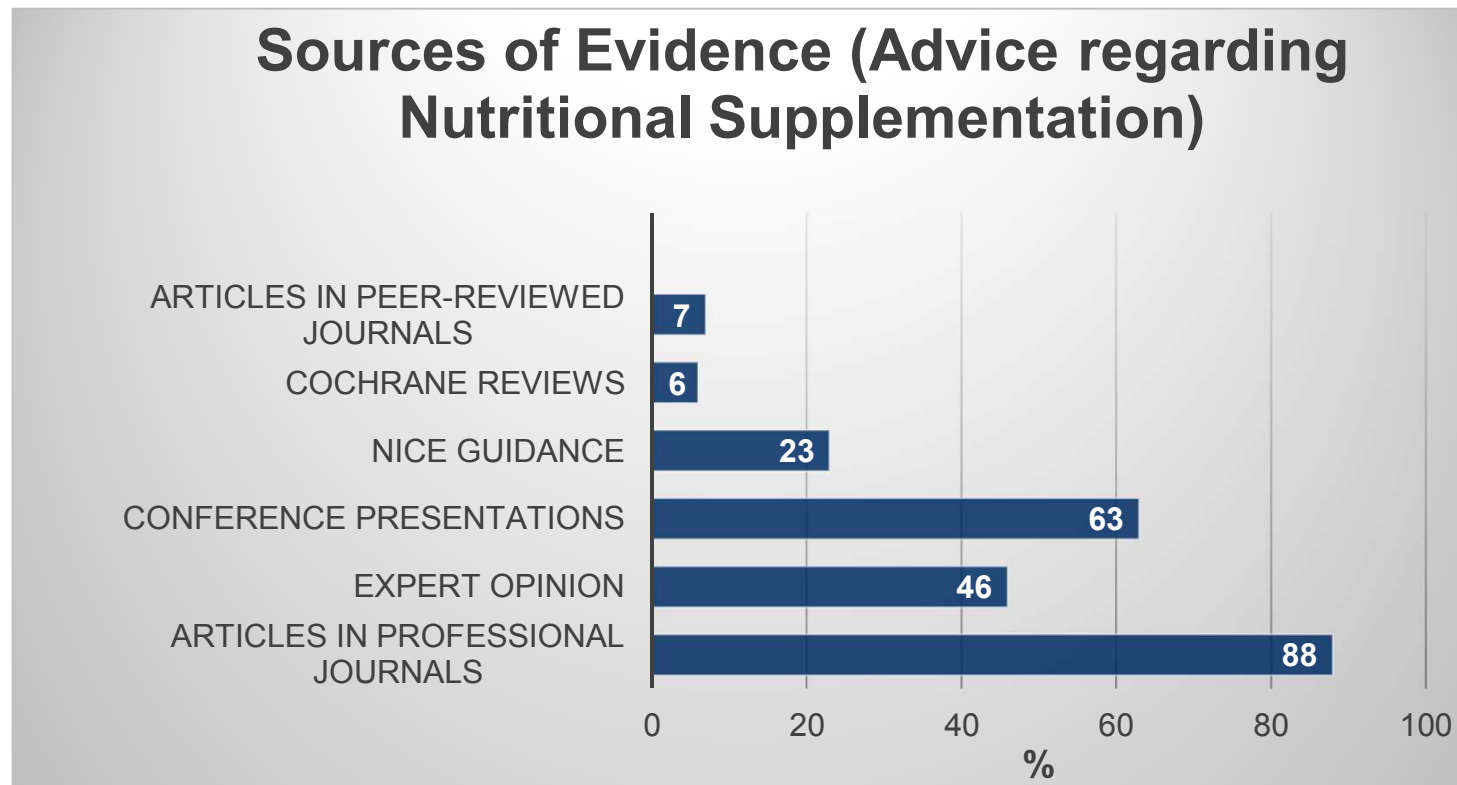
Antioxidant vitamin and mineral supplements for slowing the progression of age-related macular degeneration (Review)

Evans JR, Lawrenson JG

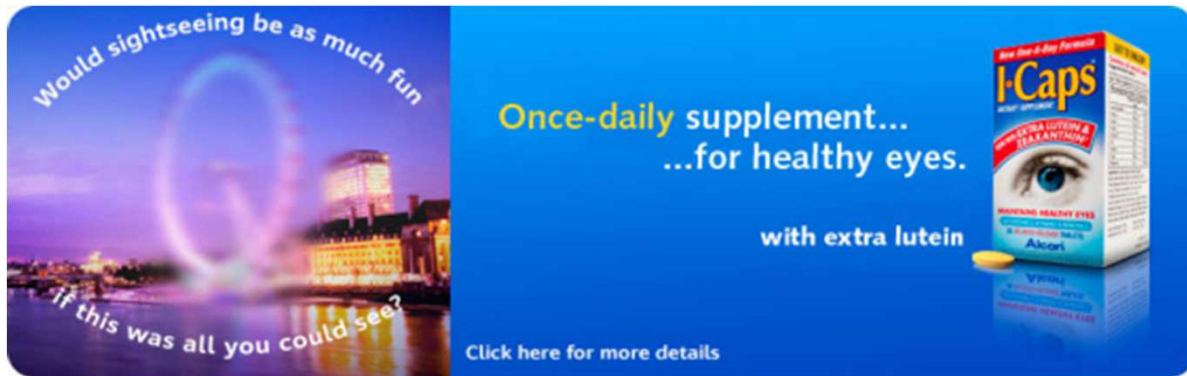
Omega 3 fatty acids for preventing or slowing the progression of age-related macular degeneration (Review)

Lawrenson JG, Evans JR

Sources of evidence informing optometrists clinical decision-making



Dietary supplements for eye health




Would sightseeing be as much fun
if this was all you could see?

**Once-daily supplement...
...for healthy eyes.**

with extra lutein

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VITAL NUTRIENTS?**

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Ocuvite
EYE VITAMIN & MINERAL SUPPLEMENT



Did You Know?

1 MacuShield® capsule contains the same amount of lutein and zeaxanthin as consumed in*:

- 9 x  or
- 13 x  or
- 44 x  or
- 625 x 

*Not an approximation only well rounded to the nearest whole for a healthy illustration.

MacuShield

Meso-zeaxanthin, zeaxanthin and lutein food supplement, tested at leading research institutes, and endorsed by eye care professionals.

MacuShield® is a unique patented formula which brings together all three macular carotenoids, in a once a day easy to take capsule.

Each softgel capsule contains:

- 10mg Meso-Zeaxanthin
- 10mg Lutein
- 2mg Zeaxanthin

Other Ingredients: Soft-Lowest Level Oil, Marigold Extract, Benzoin, Capsule Shell, Glycerin, Glycine, Cellulose, Iron Oxide, Glutaric Acid

Trust the science...

Available in:

- 30 capsules (1 month supply)
- 90 capsules (3 month supply)



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www.macushield.com

MacuShield

**Once A Day
Meso-Zeaxanthin
Supplement**



Recommended by Eye Care Professionals

Sources of evidence informing optometrists clinical decision-making



HOW DO I

TALKING ABOUT NUTRITION

Hospital optometrist and food blogger, Preeti Singla, discusses how to effectively talk to patients about improving their diet for the benefit of their eye health

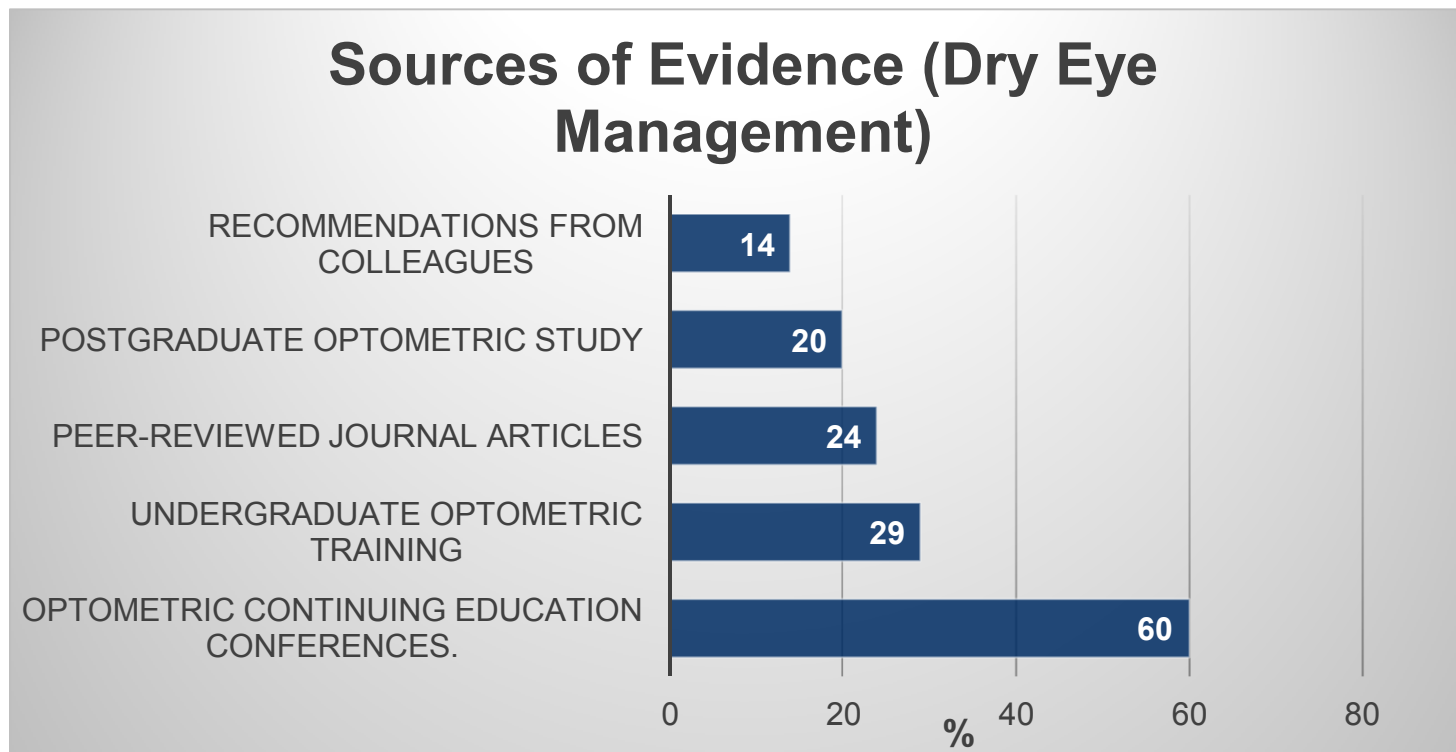
31 Aug 2016 | by Robina Moss

Category: [Health](#), [Feature](#)



Although the link between a healthy diet and ocular health isn't as strong as it is with other conditions, research has shown that consuming the right nutritional balance can help prevent the development of numerous eye conditions.

Sources of evidence informing optometrists clinical decision-making



College of Optometrists

- The College of Optometrists is the professional body for UK optometry
- It plays a leading role in raising awareness of evidence-based practice through their guidance for professional practice
- Development and maintenance of Clinical Management Guidelines to support specialist therapeutic prescribers
- Commissions primary research and evidence syntheses of relevance to optometry

Using evidence in practice

Dietary interventions in AMD

Have you ever stopped to think about the evidence behind the treatments you use? Do you know that the treatment is right for them?

This series, *Using evidence in practice*, sets out a summary of that evidence and there is a solid foundation behind the recommendations you make.

A recent paper summarised the results of three Cochrane systematic reviews on whether nutritional supplements prevent or slow the progression of age-related macular degeneration (AMD).



There is no good evidence from randomised controlled trials that the general population should be taking antioxidant vitamin supplements to reduce their risk of developing AMD later on in life.



Beta-carotene and vitamin E seem to increase mortality, and so may higher doses of vitamin A. There is an increased risk of lung cancer associated with beta-carotene supplementation.



There is moderate quality evidence that people with AMD may experience a delay in progression by taking specific antioxidant vitamin and mineral supplements. This finding is drawn from one large randomised controlled trial conducted in the USA in a relatively well-nourished population.

Want to know more? Read the paper here:
www.college-optometrists.org/AMD-Diet



INVITED REVIEW

A review of the evidence for dietary interventions in preventing or slowing the progression of age-related macular degeneration

Jennifer R. Evars¹ and John G. Lawrenson²

¹International Centre for Eye Health, London School of Hygiene and Tropical Medicine, London, UK and ²Division of Optometry and Visual Science, City University London, London, UK

Citation information: Evars JR & Lawrenson JG. A review of the evidence for dietary interventions in preventing or slowing the progression of age-related macular degeneration. *Ophthalmic Physiol Opt* 2014; 34: 390-396. doi: 10.1111/txo.12142

PROTECT YOUR EYES
from harmful High Energy Blue Violet Light.



**SEE
COAT
BLUE**



Advanced Clear Lens Coating
that Filters Harmful Blue Light

**PROTECT
YOUR EYES NOW
WITH BLUE LIGHT
FILTER LENS**



Without Blue Light Filter Lens



With Blue Light Filter Lens

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WHEN USING DIGITAL SCREENS**



Headache



Eye Fatigue



Blurred Vision



Blue Light Filter Lens employ a proprietary technology which able to reduce harmful blue light by -50% and eliminate glares from digital screens.

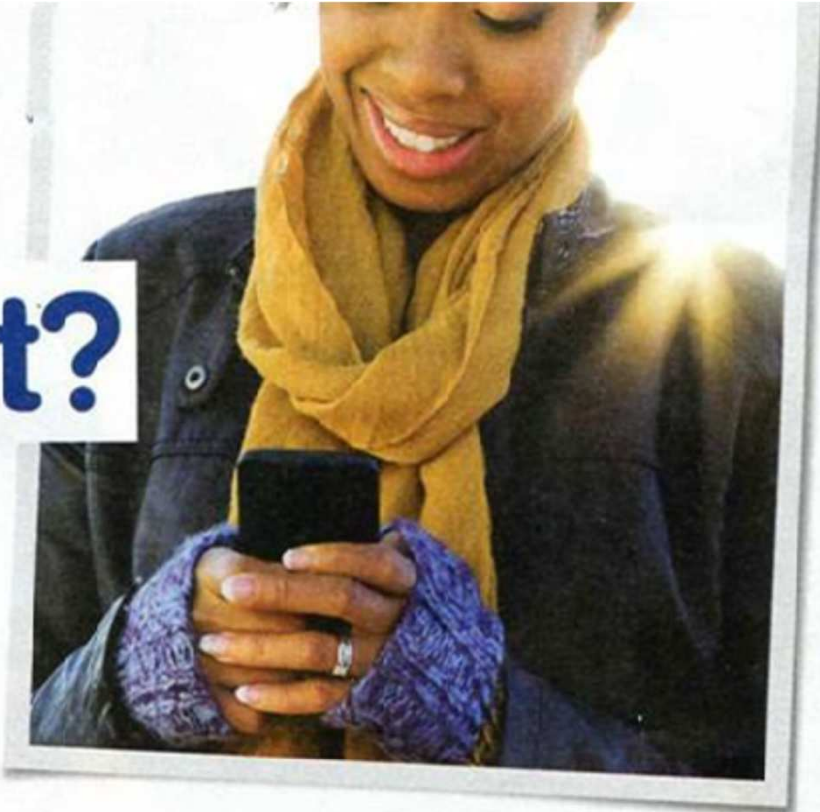
**Protecting Eyes
From 'Bad' Blue Light**

Device

Contrast

Have you seen the (blue) light?

Did you know that some blue light,
from smartphone screens to
sunshine, can affect your eyes?
Luckily Boots Opticians can help



Living in the modern world has lots of exciting advantages, not least the fact that we now have computers small enough to fit in our pockets, so we can stay in touch anywhere and everywhere.

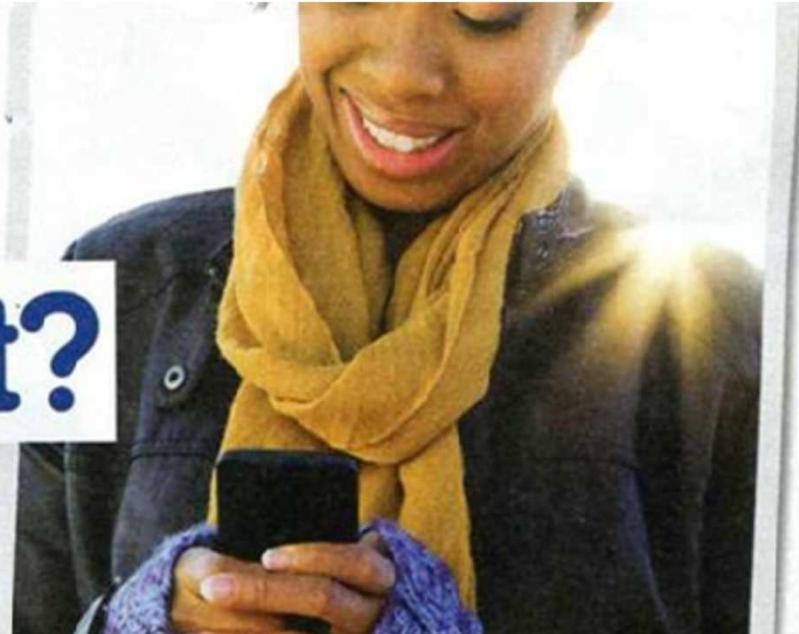
But did you know that there are lots of factors in your daily life that could be affecting your – and your family's – eyes? Many modern gadgets, whether it's a fancy LED TV or your smartphone, as well as sunlight and energy-saving light bulbs, give off a certain kind of blue light that can cause your retinal cells to deteriorate over time.

There's no need to issue a ban on technology or spending

**Call 0345 125 3753[†] or go to
[Boots.com/opticians](https://www.boots.com/opticians) to make
an appointment for your eye
health check in one of more
than 600 practices nationwide**

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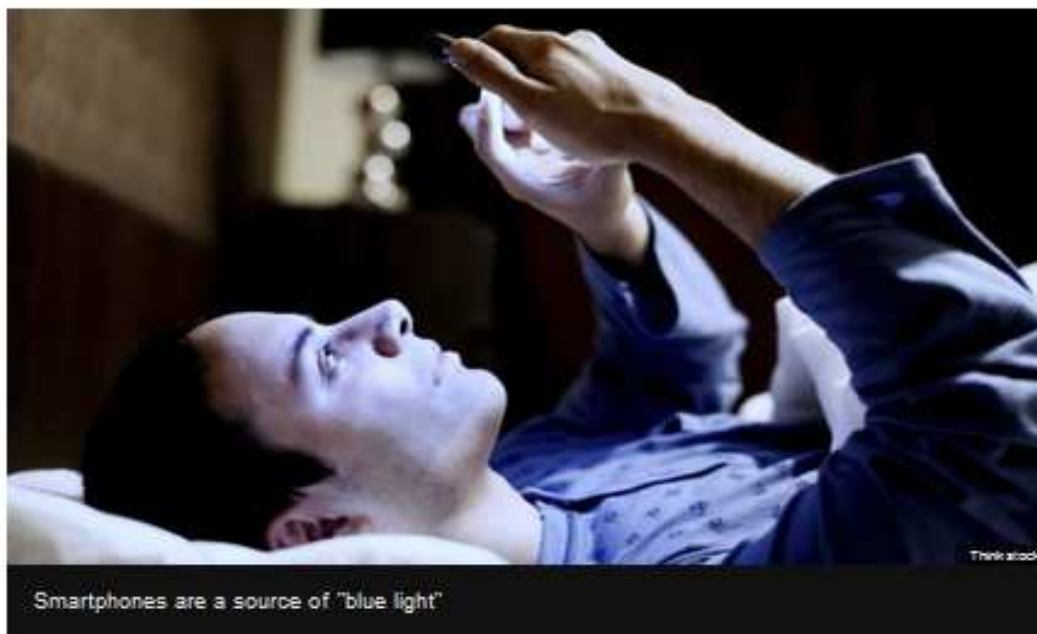
so we can stay in touch anywhere and everywhere.
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Health

'Misleading' Boots eye advert banned

© 28 October 2015 | Health



An advert for Boots Opticians has been banned for "misleading" claims that blue light, emitted from smartphones and other gadgets, damages eyesight.

The Advertising Standards Authority said there was insufficient evidence to prove a direct link between blue light and retinal damage.

Health**'Misleading' Boots eye advert banned**

© 28 October 2015 | Health

ASA Ruling

'Boots did not provide evidence that a modest 20% reduction in the amount of harmful blue light entering the eye would lead to a significant reduction in the amount of retinal damage caused by exposure, as implied by the ad. In the context of an ad which purported that harmful blue light was damaging to retinal cells and implied that the majority, if not all, harmful blue light was filtered out by Boots' lens coating before it reached the retina, we did not consider the evidence was adequate to support the implied claim made. We therefore concluded the ad was misleading.'

Smartphones are a source of "blue light"

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GOC fines Boots for misleading advert



Author: Simon Jones

Published: 26/05/2017

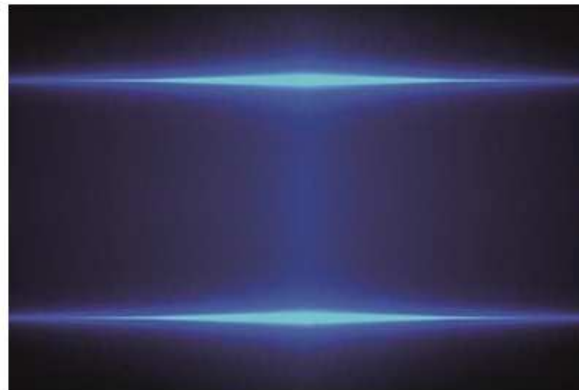
Boots Opticians Professional Services has received a fine of £40,000 after a General Optical Council fitness to practise committee ruled it damaged the public's trust in the profession with a misleading consumer advert for its Boots Blue Protect lenses.

The multiple admitted failure in ensuring the content for the advert, placed in The Times in January 2015, was backed up by evidence to support claims within the copy that the lenses protected patients from harmful blue light and retinal damage over a prolonged period. The allegation of failing to ensure the advert received prior approval by a registrant was also admitted.

Boots Opticians was found guilty of misconduct and the panel ruled its fitness to practise was impaired by virtue of lack of insight into its action immediately after the advert was published.

The committee noted the new approval structure Boots had implemented to prevent similar adverts appearing in future, but remained mindful that mitigating factors should carry less weight when considering sanctions in a case of this type.

See In Focus in next week's Optician for more on the hearing.



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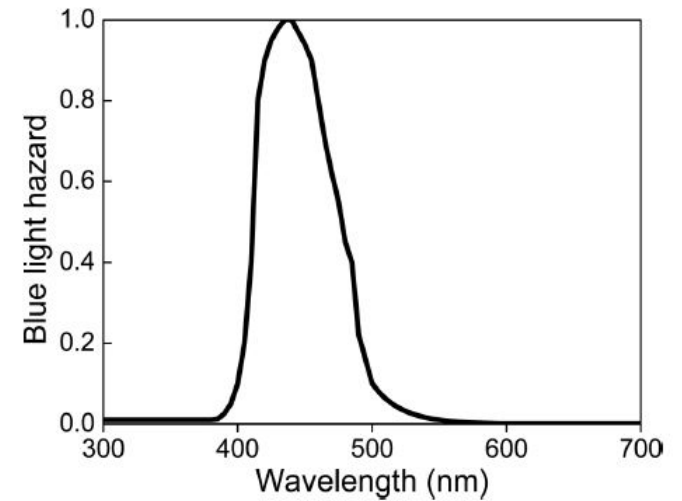
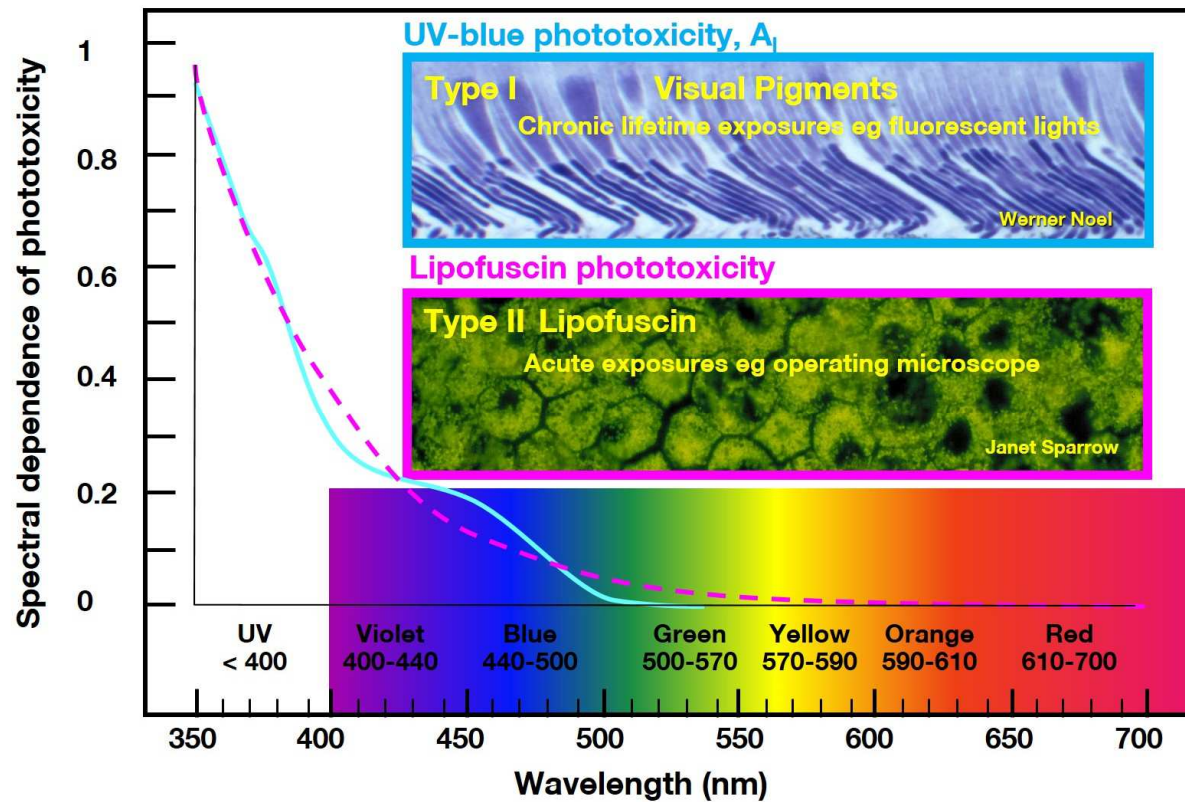


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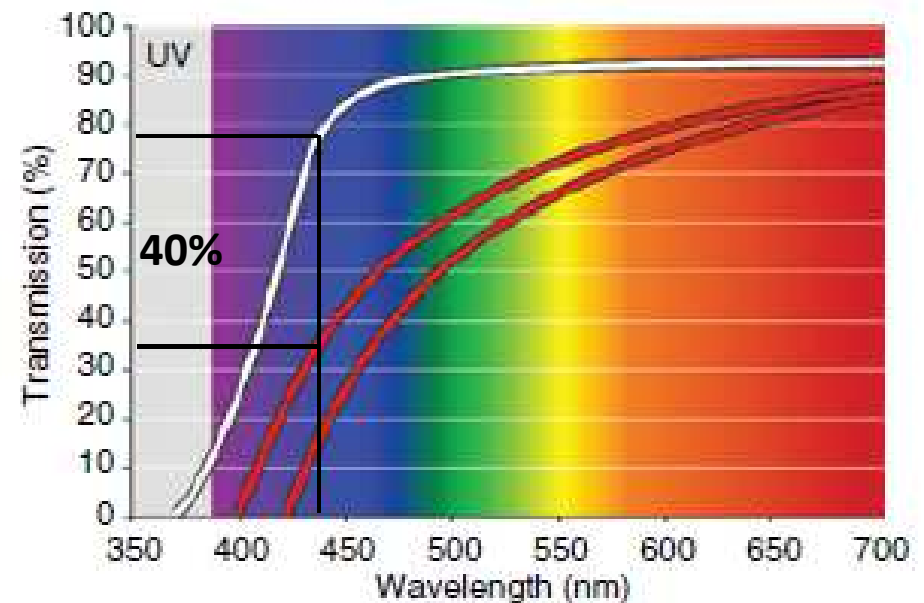
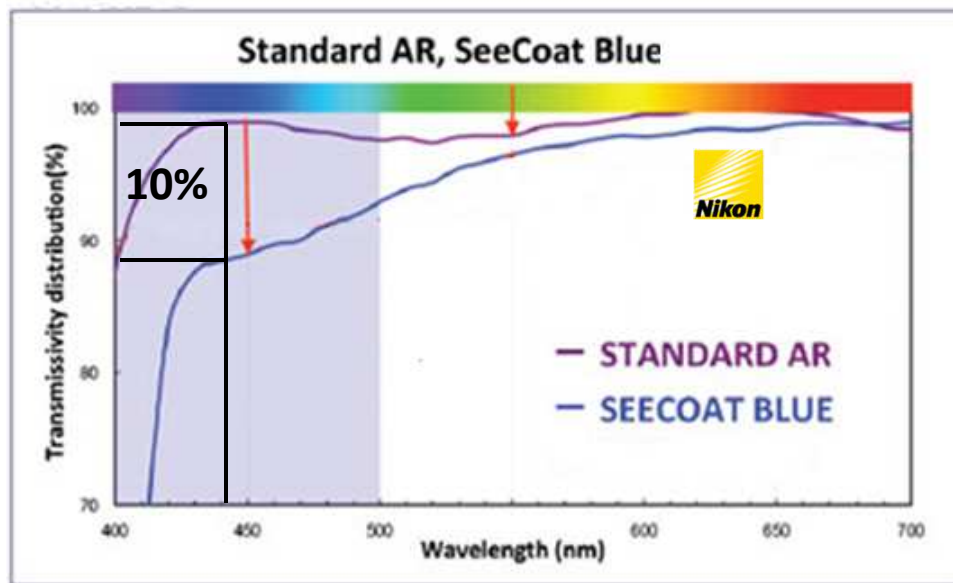
Blue Light Hazard



Peak of blue light hazard at 440nm

Blue Blocking Lenses

Blue light hazard peaks at 440nm



5 yr old versus 50 yr old lens

<https://www.2020mag.com/ce/TTViewTest.aspx?LessonId=108654>

<http://www.ncbi.nlm.nih.gov/pubmed/10701805>



Using evidence in practice

The efficacy of blue-blocking spectacle lenses for visual comfort and as protection against macular disease

Have you ever at treatments you treatment is right

This series, Using for you, so that yc recommendations

Professors John Li of the evidence bi



What you should know



The best scientific evidence currently available does not support the use of blue-blocking spectacle lenses in the general population to improve visual performance, alleviate the symptoms of eye fatigue or visual discomfort, improve sleep quality or conserve macula health.






A systematic literature review was undertaken as part of the development process for this guideline (search date 02.05.17). Three randomised controlled trials that met the review's inclusion criteria were identified.



When considering the evidence for the use of blue-blocking spectacle lenses, four questions were addressed:

- Are blue-blocking spectacle lenses effective in improving visual performance?
- Are blue-blocking spectacle lenses effective in alleviating the symptoms of visual fatigue or discomfort?
- Are there any structural changes in the macula following the intervention?
- Are blue-blocking spectacle lenses effective in improving sleep quality?

The effect of blue-light blocking spectacle lenses on visual performance, macular health and the sleep-wake cycle: a systematic review of the literature

John G Lawrenson¹ , Christopher C Hull¹  and Laura E Downie² 

¹Centre for Applied Vision Research, Division of Optometry and Visual Science, City University of London, London, UK, and ²Department of Optometry and Vision Sciences, The University of Melbourne, Melbourne, Victoria, Australia

Citation information: Lawrenson JG, Hull CC & Downie LE. The effect of blue-light blocking spectacle lenses on visual performance, macular health and the sleep-wake cycle: a systematic review of the literature. *Ophthalmic Physiol Opt* 2017; 37: 644–654. <https://doi.org/10.1111/opo.12406>

Want to know more? Read the full paper at: www.college-optometrists.org/BlueBlocking



CONCLUSIONS: We find a lack of high quality evidence to support using blue-blocking spectacle lenses for the general population to improve visual performance or sleep quality, alleviate eye fatigue or conserve macular health.

What you should know



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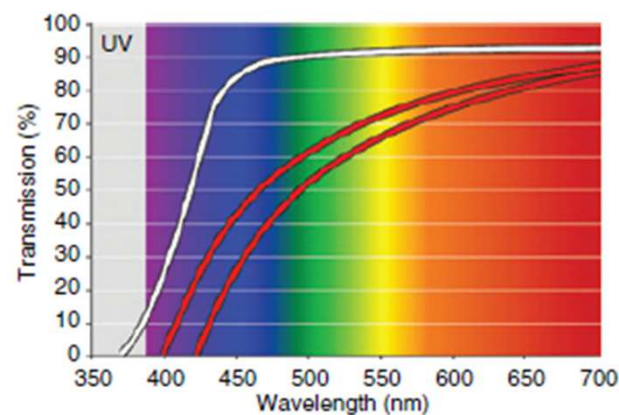
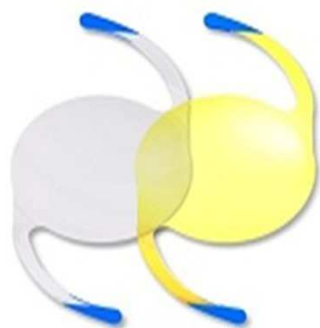
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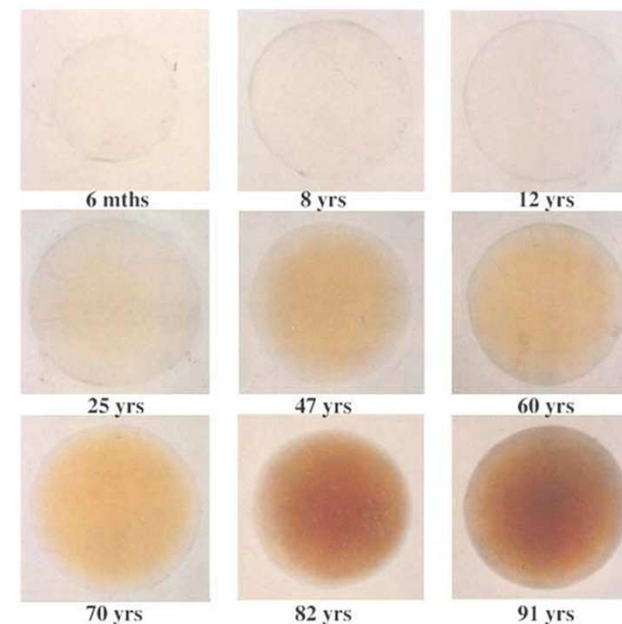
Cochrane Reviews on Blue-blocking lenses

Blue-light filtering intraocular lenses (IOLs) for protecting macular health (Protocol)

Downie LE, Busija L, Keller PR



Lens transmission aged 5, 50, 80 years



Summary

- Optometrists are a major provider of primary eyecare in the UK
- With the continuing expansion of their scope of practice it is increasingly important that optometrist's clinical decision-making is informed by the best available research evidence
- The College of Optometrists continues to play a key role in the promotion of evidence-based practice through the development of clinical guidelines, commissioning relevant research and raising awareness of the evidence using accessible formats