

Wondering why car headlights are so painfully blinding? Well it could be down to your age

- Headlight glare is involved in higher numbers of accidents and deaths
- The phenomenon is being blamed on carmakers fitting powerful headlights
- Research shows the older you are, the easier it is to be temporarily blinded

By [John Naish for the Daily Mail](#) Published: 23:30, 1 May 2017 | Updated: 10:21, 2 May 2017

Anyone who drives at night knows the problem. An approaching car rounds a bend or crests a hill and a dazzling glare fills the windscreen and you can't see.

It is extremely frightening and several seconds may elapse before your night vision recovers — putting your own life and those of other road users in danger.

The phenomenon is being blamed on carmakers fitting ever more powerful headlights as a 'safety' marketing feature. But research shows that because of the basic mechanics of our eyes, the older you are, the easier it is to be temporarily blinded.



Headlight glare is involved in more accidents and deaths, according to government figures

The danger first arose when soft yellow halogen headlamps (which produce light when a filament is heated) began to be superseded by stronger Xenon or High Intensity Discharge (HID) lights in the early Nineties. These produce a harsh blue light that is typically twice as bright.

An even brighter generation of Light Emitting Diode (LED) lights started to appear in 2006. These work by passing an electric current through a capsule of gas or via electromagnetic energy and are fitted to a lot of new cars.

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One factor contributing to accidents that British police record is ‘dazzling headlamps’.

In 2014, investigators reported this as an influence in ten fatal crashes, nearly 70 serious accidents and more than 250 other accidents. Overall, this was an increase of 11 per cent on 2010.

Campaigners say glare may cause many more minor accidents, which are often unattended by police and go unrecorded.

Roy Milnes, 70, from Pwllheli, North Wales, runs the pressure group Lightmare, which is campaigning to have light levels from modern headlights lowered. ‘We get thousands of complaints,’ he says. ‘The brightness has gone beyond human endurance.’

Glare can even cause a pain-like reaction, according to Dr Peter Heilig, a professor of ophthalmology at the University of Vienna.

‘Glare sends a warning signal to the brain that says “Stop!” ’ he says. ‘It is comparable to the pain signal you get when you suddenly overstrain a joint.’ In response, you may wince or even inadvertently shut your eyes.

Are modern headlights really so much worse? Yes, says Professor Heilig. ‘The stark blue light has much higher energy — ie, it looks much brighter — than halogen bulbs, due to it having a much shorter wavelength.’



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The effect of the glare of modern lights is greater as we grow older, according to John Marshall, professor of ophthalmology at University College London.

The main problem is light scatter. The eye's lens and cornea are not perfectly clear, so when bright light is shone through them, some gets scattered around the inside of the eye, making images blurred or blank.

'It is the same effect you get from trying to look at a bright light through a misted-up windscreen,' says Professor Marshall. 'The older you are, the more changes you get, even to healthy eyes, such as the lens and cornea becoming less clear, so the more problems you will have seeing clearly.'

'At night your pupil opens wider to let in more light, and when your eye meets a headlamp you get more scatter and can't see.'

Disability glare, when light is scattered inside the eye, was identified in 1927. That it is exacerbated by modern headlamps was discovered ten years ago in a report by the U.S. National Highway Traffic Safety Administration. This found it can take as long as ten seconds to recover fully.

Car-makers have tried fitting HID lamps with beam-focusing lenses and self-levelling systems, which aim to angle beams down to prevent cars blinding oncoming drivers when cresting hills.

But Rob Marshall, a technical adviser with the UK road safety organisation GEM Motoring Assist, warns these systems are less than perfect: 'They take time to react, so an oncoming driver can be blinded temporarily.'

The Society of Motor Manufacturers and Traders maintains there is no evidence that factory fitted high-power lights distract drivers and that lamp-levelling technology ensures they are safe.

It adds that they are particularly important on poorly lit roads.

But the Government acknowledges there may be a problem. The Department for Transport says the UK has won agreement for a 'glare' group as part of the United Nations expert group on vehicle lighting.

The group is set to produce results at the end of this year. However, it is so far only considering standards for the next generation of LED headlamps — ie, those not already in use.

In the meantime, Professor Marshall suggests drivers might consider wearing clear glasses — prescription or not — with a UV-absorbent coating, available from High Street opticians.

'You can only tell that spectacles have this coating because they have a slight blue sheen,' he says. 'I wear them myself.'

<http://www.dailymail.co.uk/news/article-4464138/Wondering-car-headlights-painfully-blinding.html>

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