

£12 LED torch 'could boost declining vision in over-40s'

By Daily Telegraph Reporter

A SMALL LED torch that emits deep red light and costs just £12 to manufacture could help improve declining eyesight, scientists have said.

A study by University College London, involving a small sample size of 24 people, has shown that staring at long wavelength light for three minutes every day can "significantly improve vision" in those aged 40 and above.

Scientists believe the discovery, published in the *Journals of Gerontology*, could pave the way for eye therapies that are affordable and can be done by the patient at home.

Cells in the eye's retina begin to deteriorate at around 40 years of age.

According to the researchers, the pace of this ageing is caused partly by a decline in the cell's mitochondria, whose role is to produce energy and boost cell function.

Prof Glen Jeffery, of the UCL Institute of Ophthalmology, the lead author of the study, said: "As you age, your visual system declines significantly.

"Your retinal sensitivity and your colour vision are both gradually undermined, and with an ageing population, this is an increasingly important issue.

"To try to stem or reverse this decline, we sought to reboot the retina's

ageing cells with short bursts of long wave light."

The 24 people who took part in the study were aged between 28 and 72 and had no ocular disease. They were given LED torches to take home and were asked to gaze into its red 670nanometre light beam for three minutes a day for two weeks.

They were then retested for colour vision and vision at low light levels. Ability to detect colours improved by up to 20 per cent in some people aged around 40 and over, the researchers said. The ability to see in low light also improved significantly within the same age group, they added, although the effects were not as dramatic.

The effect was not seen in younger individuals who were aged below 40.

Prof Jeffery said: "Our study shows that it is possible to significantly improve vision that has declined in aged individuals using simple brief exposures to light wavelengths that recharge the energy system that has declined in the retina cells, rather like recharging a battery.

"The technology is simple and very safe, using a deep red light of a specific wavelength, that is absorbed by mitochondria in the retina.

"Our devices cost about £12 to make, so the technology is highly accessible to members of the public," he said.



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