

A round-up of the eye related hot topics that have been trending on social media over the last few weeks.

#smartcaptionglasses #Epson #livetheatre #deaf

Here is some good news for the New Year. Epson, a Japanese technology firm, has developed augmented reality glasses, which display captions timed with the actors' performances [1]. Stage lighting, timing and other stage cues are employed to facilitate the simultaneous display of the scripted text inside the glasses [1]. Even if the actors skip a few lines, the glasses are able to correct for this by detecting the changes [2]. The Royal National Theatre in London had been piloting these glasses for a few months in 2018, but they are making them available free of charge for all performances starting this year [2]. How wonderful is that?

#Brexit #eyedrops #drugsupply

"I don't want to go blind because of Brexit" [3]. That's click bait, especially for me as I'm on a regular look out for interesting stories to include in this column. Patrick Cosgrove wrote a letter to *The Guardian* expressing his concerns regarding stock issues of Ganfort, an eye drop manufactured in the EU, which he relies on for his hereditary glaucoma [3]. He submitted a freedom of information request in an attempt to discover whether the medicine had been stockpiled in the event of a no-deal Brexit, only to be directed to the Department for Exiting the European Union, who referred him onto an NHS website containing no useful information [3]. Cosgrove is not the only concerned citizen, as searching the above hashtags in Twitter will show [4]. The drug supply concerns extend beyond ocular conditions, as many drugs such as insulin, prednisolone and anti-hypertensives are manufactured in the EU.

#sight-saving #treatment #eyeinfection #trauma #Decorin

Birmingham scientists have formulated a novel eye drop formulation touted as a sight-saving treatment for eye infections and ocular trauma [5]. The scientists report that their new eye drop is able to deliver a sustained retention of human recombinant decorin on the tear surface [6]. Decorin itself is a naturally occurring proteoglycan with anti-scarring effects [6]. Previous in vivo studies have not found an increased efficacy in minimising fibrosis when topically applied to the ocular surface, possibly because of the relatively rapid clearance of eye drops with the currently available formulations [6]. They found that their new eye drop when

tested in a murine model of *Pseudomonas aeruginosa* keratitis showed faster corneal healing, reduced corneal scarring and opacity compared with standard treatment (topical antibiotic and steroid) [6]. The scientists say that their novel 'fluid gel' eye drop can transition between solid and liquid states, thereby conforms to the ocular surface and is slowly cleared by blinking. In effect, this forms a 'therapeutic bandage' on the ocular surface to promote scarless healing [7]. Watch this space!

Boy trolled side profile pics

No hashtags for this one, as the tweet has since been deleted and it seems all trace of the story has vanished from the Internet except for the original article on metro.co.uk [8]. Jarret Stodghill is an American teenager who found his picture circulating on Twitter with an insult about the fact that he only showed half his face in order to show off his jawline [8]. He decided to reply by explaining that the reason why was because he had lost his other eye to retinoblastoma and was self-conscious about his artificial eye. After about 45 minutes, the tweet had reached thousands of people, and the original tweet was deleted with an apology to Jarret [8]. What a powerful reminder that we often do not know what struggles and scars lay underneath the brave face we all put towards the outside world.

#jumpingspiders #prey

Jumping spiders are like the cats of the spider world. They stalk their prey and then, true to their name, jump upon them. Spider biologist Elizabeth Jakob built a spider eye tracker to track the spiders' gaze. Jumping spiders have four pairs of eyes. The principle pair of eyes (and largest) detects detail and colour. Behind are three pairs of eyes, with the front pair tracking motion, the rear pair looking backward, and an unknown function for the middle set. It transpires that the principle eyes, though accurate, do not know where to look unless the front secondary pair of eyes tracking motion are able to tell the principle eyes where to look. When Jakob's team temporarily painted over these motion-tracking eyes and then presented the spiders with moving images, the spiders did not know where to look. So not only were these eyes telling the principle eyes that there was a moving target, they also communicated the location of that target [9].

#Da Vinci #strabismus #rareeyecondition

Well Da Vinci, was it not enough to be star attraction at the Louvre (Mona Lisa), or to have your Vitruvian Man instantly recognisable? (I even have an old childhood journal with the drawing on it). You just had to be star of social media too, didn't you? You even had your own Twitter Moment "Rare eye condition facilitated Leonardo da Vinci's genius, research suggests" [10]. It turns out, Da Vinci likely had an intermittent exotropia. Professor Christopher Tyler examined the few surviving images of Da Vinci and measured a -10.3 degree deviation consistent with exotropia [11]. He reasoned, this likely facilitated his ability to capture three-dimensional space on canvas due to the fact that he would have retained the ability to switch to monocular vision [11]. There you have it, binocular single vision is not the be all and end all for immortal fame.

References

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