Google Debuts Contact Lens Glucose Monitor

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The days of painful finger-jabbing may be numbered for people with diabetes, thanks to a new Google-designed contact lens that can monitor blood sugar levels in tears, The Associated Press reported.

The new lenses were developed during the past 18 months in the secret Google X lab. The device includes not only thousands of miniaturized transistors and hair-thin wires inside the lenses, but also the smallest wireless glucose sensor ever made.

The project was initially spearheaded several years ago at the University of Washington. There, researchers worked hard to develop a way to accurately test blood sugar via human tears, as well as miniaturize the technology enough to fit the lenses comfortably on the human eye.

Then Google took the technology, put it on a lens and tested it out. The company says early trials that it conducted with real patients yielded encouraging results. But many industry experts say more research needs to be done to work out possible problems.

“This has the potential to be a real game changer,” said John Buse, MD, PhD, a diabetes researcher at the University of North Carolina, whom Google briefed on the lens. “But the devil is in the details.”

One of those details includes studying how to safely monitor glucose levels in tears rather than in the blood. Researchers also need to evaluate certain scenarios that could potentially interfere with readings, such as when someone wears the device in windy or inclement weather, or cries.

Google isn’t the only company trying to design a pain-free solution that the world’s 382 million diabetics can use to monitor their blood sugar levels. A similar lens is currently being developed by a Netherlands-based lab, Noviosense. OrSense, an Israel-based company, recently tested a new thumb cuff monitor, and there have also been early designs for glucose-testing tattoos and saliva sensors.

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