Seeing With Tunnel Vision

BOSTON (Ivanhoe Broadcast News) -- One in 200 people older than 50 have tunnel vision, a serious condition that all but eliminates peripheral vision. Some rare diseases can cause it, but more common conditions like retinitis pigmentosa and even glaucoma can cause it, too.

It looks like a video game, but this screen and these glasses are changing the way Cory Macdonald sees the world. At age 4, he was diagnosed with choroideremia, a disease that causes tunnel vision. "Out of a possible 180 degrees of visual field that a person can have, I have about three," he says.

Harvard vision researcher Eli Peli, O.D., says 1 in 200 people have tunnel vision, which makes finding nearly everything a daunting task. "It's amazing how many times you search for things in your environment -- where did I put that key? Where did I put those glasses? Where did I put the cup? It is something that we do every day," Dr. Peli says.

Now, a special set of glasses could change everything. A camera minifies the world to maximize the visual field. Details are then displayed on a screen on the lens so patients can read things like road signs.

Dr. Peli says, "With this device, you get an overall view in which you can identify the thing you want and then go to it and then get the details on it."

Without the glasses, Macdonald misses images that pop up on the screen. With the glasses, he sees nearly all of them. In another test, he searches endlessly for a paperweight. Put the glasses on and he finds it easily. "I would wear them anytime I left my house and probably many times inside my house," he says.

The glasses are still under study and researchers are working to improve them even more. Next, Dr. Peli and his team will test the usefulness of the glasses for people in their homes and for outdoor activities.

Macdonald relies on his cane right now but hopes the glasses will be soon ready for public use. "These glasses are very exciting to me."

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