

## How Drinking The Legal Limit Of Alcohol Impairs Vision By 30 Percent

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According to *Medical News Today*, having a designated driver on hand while drinking is an important part of being responsible on the road.

Though blood alcohol concentration restrictions are imposed on drivers, how is our vision affected when we are under this limit?

Researchers in Canada set out to answer this question and found that our vision is impaired by up to 30 percent - before we even hit the legal limit.

The research, published in the journal *Perception*, was conducted by Kevin Johnston and Brian Timney, from the Schulich School of Medicine & Dentistry and Western University's Social Science department in Ontario.

They say though it is widely known that alcohol affects decision-making and motor skills, until now, there have been few studies to analyze how alcohol affects vision.

However, rather than using modern technology to conduct their research, they employed a 144-year-old optical illusion, called the Hermann Grid.

The legal blood alcohol concentration (BAC) limit for driving in Canada and most parts of the US is 0.08 percent.

To conduct their study, the researchers had participants drink either nonalcoholic drinks or enough alcoholic drinks to keep them just under the legal limit.

After consuming their drinks, the participants then estimated the contrast of the blobs - that Johnston described as "ghost-like dark spots," which are present at grid intersections - by using a matching procedure.

For the participants who drank the alcohol, the contrast of the spots in the grid was reduced by 30

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percent when their BAC approached the legal driving limit.

The researchers say this visual impairment would make distinguishing differences between objects based on lightness and darkness quite difficult.

They also add that their results suggest alcohol reduces lateral inhibitory interactions - the inhibition neighboring neurons in brain pathways have on each other - in human vision.

Timney says:

"This is obviously important when you are driving at twilight, when objects are more difficult to see and more difficult to discriminate, even without alcohol. It's at those times when you are going to be most affected, and impaired."

Drivers in the US may want to take heed, as the Centers for Disease Control and Prevention (CDC) recently estimated that at least 38 million Americans drink too much.

*Source: Medical News Today, Marie Ellis*