

## Research Highlight

# Being Conspicuous at Night on a Blurred Road

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Every year in the United States, more than 4500 pedestrians are killed and more than 75,000 pedestrians injured by motor vehicles. Worldwide, annually, one quarter of a million pedestrians are killed by motor vehicles. The vast majority of these deaths (70% or more) occur at night. Therefore, research into night-time pedestrian visibility is highly valuable.

Wood and associates from Queensland University of Technology have shown that when the vision of drivers is blurred by even a small amount, it is much more difficult to detect pedestrians wearing different types of clothing at night.<sup>1</sup>

These experiments were conducted at night on a closed road circuit. A group of older (aged 69–86) and younger (aged 24–31) drivers were asked to drive around the road circuit and identify the presence of pedestrians walking at the road side. The drivers wore spectacles that gave the best distance vision possible, or they had their vision blurred by different lenses, simulating different amounts of near-sightedness. Blurring vision by even a small amount meant that drivers had to be closer (sometimes half the distance) to the pedestrians before they could identify their presence. This occurred for amounts of blur that were so low that the drivers would have passed a vision test for driving. Similar effects occurred for older and younger drivers. The addition of reflective tape to the pedestrians' chest, shoulders, elbows, wrists, knees, and ankles considerably improved their visibility to drivers (up to 9 times more visible), but even for these conditions blurring drivers' vision made the pedestrians less visible.

The findings highlight the importance of drivers using spectacles that give them the best vision possible. Doing so should allow drivers to recognize potential hazards at greater distances and may improve safety for pedestrians.

## References

1. Wood JM, Marszalek R, Carberry T, Lacherez P, Collins MJ. Effects of different levels of refractive blur on night-time pedestrian visibility. *Invest Ophthalmol Vis Sci.* 2015;56:4480–4485.