Motorcycle helmets hard on hearing

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Motorcycle helmets, while protecting bikers' brains, may also be contributing to hearing loss. Scientists mapped the airflow and noise patterns to find out why.

The distinctive roar of a Harley's engine is loud, but studies have revealed the biggest source of noise for motorcyclists is actually generated by air whooshing over the riders' helmets. Even at legal speeds, the sound can exceed safe levels.

Now, scientists have identified a key source of the rushing din. Researchers from the University of Bath and Bath Spa University placed motorcycles helmets atop mannequin heads, mounted them in a wind tunnel, and turned on the fans. By placing microphones at different locations around the helmet and at the mannequin's ear, the researchers found that an area underneath the helmet and near the chin bar is a significant source of the noise that reaches riders' sensitive eardrums.

The team also investigated how helmet angle and wind speed affected the loudness. Future tests will move beyond the wind tunnel to real-life riders on the open road. The findings, described in the Journal of the Acoustical Society of America, may one day be used to design quieter helmets, saving riders' ears for the enjoyment of hard biker rock, the researchers say.

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