The noise from a motorcycle is as intense as that from a loud rock concert and can permanently damage hearing, new scientific research has found.

More than 5 million Americans are registered motorcycle owners, says the U.S. Department of Transportation. Up until now, relatively little attention has been paid to the effects of motorcycle noise, according to University of Florida audiologists, who conducted this research.

"Potentially, the vast majority of motorcyclists could be exposed to dangerous levels of noise," said Joy Colle, an investigator in the Florida study, which the university released before it was published in a medical or scientific journal.

In a test of 33 motorcycles, Ms. Colle and other audiologists at Florida's College of Public Health and Health Professions determined that nearly half produced sounds above 100 decibels when throttled up. That's equal to a chainsaw or loud music, they said.

The National Institute for Occupational Safety and Health warns that exposure to noise at 100 decibels is safe for only 15 minutes. The federal agency cautions that permanent hearing loss can result from eight hours of exposure to any noise measuring 85 decibels or above.

"Almost all of the motorcycles we tested reached action-level noise, which in the workplace would require ear protection," Ms. Colle said.

Federal data indicates that 28 million Americans have some degree of hearing loss, and that about one-third of that population attributes their impairment to excessive noise exposure.

But the Florida researchers said it's unlikely many motorcyclists are aware of the potential risks because much of the readily available information about how much noise motorcycles make is wrong.

"An Internet search for motorcycle noise levels will yield a 20-to 25-decibel range," no more than 20 to 25 percent of the noise level, she said.

In the UF study, noise levels were tested at riders' ear levels from stationary motorcycles when idle and throttled up.
The audiologists say motorcycle helmets -- which are vital in protecting against massive head injuries in accidents -- do not provide much protection against hearing loss. No evidence was found that motorcycle noise harmed the hearing of those standing on a sidewalk near the test site.

Ted Madison, president of the National Hearing Conservation Association, said the "data about the sound levels to which motorcyclists are exposed will help ... [those] who work in hearing conservation advise their clients about healthy choices when it comes to how long to ride and when to wear hearing protection."

In addition to alerting bikers and their passengers about the dangers of motorcycle noise, the UF researchers plan to develop an online database that provides bike-specific data on noise exposure.

Riders, they said, should pay attention to the warning signs of hearing loss caused by noise: a ringing sound in the ears immediately after exposure and hearing voices and other sounds as muffled.

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