

**UNIVERSITY OF AUCKLAND**

**DR SRDJAN VLAJKOVIC**

**ROYAL NATIONAL INSTITUTE FOR DEAF PEOPLE (UK) FUNDED RESEARCH  
THE USE OF ANTIOXIDANTS TO PROTECT HEARING**

Hearing loss from noise exposure (NIHL) is a leading occupational disease, with up to 5% of the population at risk world-wide. Currently, hearing aids and cochlear implants are the only treatment available for this condition.

Pharmacological therapies for NIHL have only recently been proposed, but they are limited to prevention rather than treatment of hearing loss.

In the study funded by the Royal National Institute for the Deaf (RNID, UK), we have explored novel pharmacological interventions that can ameliorate noise-induced cochlear injury.

Our animal studies have shown that drugs acting on specific type of adenosine receptors can recover hearing and mitigate cochlear injury when applied up to 24 hours after noise exposure.

Our study shows that these drugs could be a valuable treatment in instances of both acute and extended noise exposure. To our knowledge, this is the most effective pharmacological strategy to date for treating NIHL.

Even though it is still a long way before these drugs can be used in clinical practice, we hope that targeted pharmacological therapies can be developed for NIHL as a viable alternative to hearing aids.

We are currently investigating therapeutic potential of these drugs in other inner ear pathologies that have common mechanisms with NIHL.

**National Foundation for the Deaf  
21 April 2009**