

PRESS RELEASE

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Using hearing aids decreases the risk of cognitive decline by 20%, a NUS Medicine study

Singapore, 3 January 2022 – Hearing loss is a well-established risk factor for cognitive decline and developing dementia. However, it was found that the use of hearing restorative devices decreases the risk of long-term cognitive decline by 20%, based on a study conducted by students and researchers from the Yong Loo Lin School of Medicine, National University of Singapore (NUS Medicine).

Published in JAMA Neurology, the study was conducted based on observational data collected from 31 studies, comprising over 130,000 study participants. Participants with hearing loss who used hearing restorative devices had an approximately 20% decrease in the risk of long-term cognitive decline. When assessing their cognitive abilities, there was a 3% improvement in the cognitive test scores which assesses short-term cognition. As the data used is observational, it is not possible to definitively conclude a cause-and-effect relationship, and the results should be interpreted within the boundaries of the study. Nevertheless, the team's findings further confirm that implementing targeted interventions to restore some degree of hearing is necessary to prevent or slow cognitive decline and dementia.

Affecting one in five people globally, hearing loss is becoming increasingly common as Singapore's population ages. Hearing loss is also one of the top risk factors for dementia, which detrimentally affects a patient's function and quality of life. As a debilitating condition, it causes high rates of disability, and death among older people worldwide. Since there is no definitive cure to treat dementia, tackling modifiable risk factors is key towards preventing this syndrome from developing and worsening. "Dementia is exceedingly difficult to reverse, once it sets in. Screening and treating age-related hearing loss are simple and non-invasive, so we would encourage older adults and their families to take this simple step to preserve their cognition today," said senior study author Dr Benjamin Tan, Dean's Fellow at NUS Medicine.

This study is led by a team of medical students and researchers from NUS Medicine, which includes third-year medical students Brian Yeo Sheng Yep and Harris Song Jun Jie Muhammad Danial, fifth-year medical student Emma Toh Min Shuen. They were guided by Dr Benjamin Tan Kye Jyn, Associate Professor Loh Woei Shyang and Assistant Professor Ng Li Shia from the Department of Otolaryngology, Associate Professor Reshma Aziz Merchant

from the Department of Medicine, as well as Professor Roger Ho and Assistant Professor Cyrus Ho from the Department of Psychological Medicine.

Speaking as the study's co-lead and the significance of early detection and intervention in targeting hearing loss, third-year medical student Brian Yeo said, "Our study suggests that the benefits accrue over time. The cognitive benefits may be small in the short-term, but the benefits are more pronounced in the long run. It is encouraging to note that patients with mild cognitive impairment, or early dementia, showed some improvement in cognitive abilities after using hearing devices, so early detection and treatment has proven to be extremely vital."

"Currently, there is insufficient data on the association between the intervention of hearing loss and the progression of dementia. Our study hopes to further contribute to the prevailing evidence that, the active management of hearing loss can potentially help to reduce or delay cognitive decline," said Associate Professor Loh Woei Shyang, Head of Department of Otolaryngology at NUS Medicine.

For media enquiries, please contact:

Amanda YAP
Assistant Manager, Communications
Yong Loo Lin School of Medicine
National University of Singapore
Tel: +65 8157 0881
Email: medajvy@nus.edu.sg

About National University of Singapore (NUS)

The National University of Singapore (NUS) is Singapore's flagship university, which offers a global approach to education, research and entrepreneurship, with a focus on Asian perspectives and expertise. We have 16 colleges, faculties and schools across three campuses in Singapore, with more than 40,000 students from 100 countries enriching our vibrant and diverse campus community. We have also established our NUS Overseas Colleges programme in more than 15 cities around the world.

Our multidisciplinary and real-world approach to education, research and entrepreneurship enables us to work closely with industry, governments and academia to address crucial and complex issues relevant to Asia and the world. Researchers in our faculties, research centres of excellence, corporate labs and more than 30 university-level research institutes focus on themes that include energy; environmental and urban sustainability; treatment and prevention of diseases; active ageing; advanced materials; risk management and resilience of financial systems; Asian studies; and Smart Nation capabilities such as artificial intelligence, data science, operations research and cybersecurity.

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About the NUS Yong Loo Lin School of Medicine (NUS Medicine)

The NUS Yong Loo Lin School of Medicine is Singapore's first and largest medical school. Our enduring mission centres on nurturing highly competent, values-driven and inspired healthcare professionals to transform the practice of medicine and improve health around the world.

Through a dynamic and future-oriented five-year curriculum that is inter-disciplinary and inter-professional in nature, our students undergo a holistic learning experience that exposes them to multiple facets of healthcare and prepares them to become visionary leaders and compassionate doctors and nurses of tomorrow. Since the School's founding in 1905, more than 12,000 graduates have passed through our doors.

In our pursuit of health for all, our strategic research programmes focus on innovative, cutting-edge biomedical research with collaborators around the world to deliver high impact solutions to benefit human lives.

The School is the oldest institution of higher learning in the National University of Singapore and a founding institutional member of the National University Health System. It is one of the leading medical schools in Asia and ranks among the best in the world (Times Higher Education World University Rankings 2022 by subject and the Quacquarelli Symonds (QS) World University Rankings by subject 2021).

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