

You Hear with Your Brain, Not Your Ears

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This Brain Awareness Week, Oticon helps explain how untreated hearing loss affects the functionality and health of your brain. New, high ranking evidence could mean that doctors will be able to warn of the risk of dementia if hearing loss is not addressed

Copenhagen, Denmark, March 12th, 2019 – Leading hearing aid provider, Oticon (<https://www.oticon.global/>), is renowned for its ongoing research into the fundamental understanding of how hearing works and how your brain makes sense of sound. For over two decades Oticon has studied how hearing loss impacts the brain and has developed a way to approach hearing technology, calling it BrainHearing (<https://www.oticon.global/hearing-aid-users/hearing-loss/brainhearing/what-is-brainhearing>)™. This Brain Awareness Week (<http://www.dana.org/BAW/>) Oticon explains the effects of untreated hearing loss on your brain, and how untreated hearing loss can make significant changes to your quality of life.

Most people automatically associate hearing loss with their ears, unaware that their brain is actually the main tool for good hearing, fully responsible for processing sound and converting it into useful information. With a hearing loss the brain is denied the complete picture and has to use considerable effort to compensate, drawing on resources that should be used for other functions, such as creating memories.

“The brain is a remarkable organ capable of self-preservation. When it is faced with hearing loss, over time, the brain will actually restructure (i) in order to offset the lack of information it receives from sound,” says Thomas Behrens, Chief Audiologist, Oticon. “Most people living with hearing loss are completely unaware that the cognitive work-out resulting from untreated hearing loss can be life changing, especially as the consequences of the extra effort required from the brain, such as fatigue, bad sleep and social isolation can accelerate the brain’s natural aging process (ii), which has effects on long term and overall health.”

One of the most talked about revelations of hearing loss in health studies is the correlation between age-related hearing loss and the risk of developing dementia. In fact, recent evidence, which used highly regarded statistical analysis models to assess 36 unique studies from 12 countries, and featured over 20,000 unique participants, strongly suggests that people with untreated age-related hearing loss are twice as likely to get dementia (iii). Thanks to this strong evidence, untreated hearing loss could possibly be considered a new biomarker, which means that medical professionals could soon be able to advise patients on the risk of dementia if they do not take the necessary action to address hearing loss. Evidence proves that wearing hearing aids allow people with hearing loss to spend more cognitive energy on thinking and remembering what they have heard which may slow the cognitive decline of elderly people (iv).

Examples of how untreated hearing loss can impact on your brain

The effects on concentration, reactions, social life, relationships and well-being:

- With a hearing loss your ability to concentrate is challenged. You are also likely to have slower reactions to sounds (v). Your brain becomes distracted as critical resources are allocated to help understand sound, especially in noisy environments.
- The loss of detailed input for navigating the environment, such as the sound of your feet on the pavement or the sound of a branch snapping when walking, is likely to be the reason why people with untreated hearing loss are 70% - 80% more at risk of having falls and are generally more likely to be hospitalized (vi).
- Without all of the information delivered by sound it is harder for your brain to make new memories (vii). This is because your brain is too busy using resources to make sense, compensating for the lost sound.
- Many people with hearing loss are prone to giving up on listening in challenging situations and often avoid them altogether. This can hinder your ability to maintain relationships with friends, colleagues and loved ones, and unfortunately means that withdrawal, isolation, loneliness, even depression, are all common when living with untreated hearing loss.
- A reduction in social interaction also means that your brain is not getting on-going exercise, which can cause cognitive decline. There is a continuously growing bank of evidence concluding that untreated hearing loss increases the risk of developing dementia (viii) (ix).

“There are more and more studies providing evidence of the health benefits of effectively managing hearing loss. Brain Awareness Week provides us with the perfect opportunity to educate the millions of people living with untreated hearing loss on just how important good hearing is for keeping the brain healthy and active, and the vital role the brain plays in maintaining good overall health,” concludes Thomas Behrens.

Up to 466 million people worldwide have impaired hearing and this figure is set to rapidly rise, according to the World Health Organization (<http://www.who.int/mediacentre/factsheets/fs300/en/>). The annual global campaign to increase public awareness of the progress and benefits of brain research takes place 11-17th March 2019.

For more information on Oticon and BrainHearing™ visit: www.oticon.global.

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About Oticon

500 million people worldwide suffer from hearing loss. The majority are over the age of 50 while eight percent are under the age of 18. It is Oticon's ambition that our customers - hearing clinics throughout the world - prefer to use our products for people with impaired hearing. Through passion, dedication and professional expertise, Oticon develops and manufactures hearing aids for both adults and children. Oticon supports every kind of hearing loss from mild to severe and we pride ourselves on developing some of the most innovative hearing aids in the market. Headquartered out of Denmark, we are a global company and part of Demant with more than 14,500 employees and revenues of over DKK 14 billion. www.oticon.global

Media Contact:

Sarah Chard, The PR Room. Email: sarah.chard@theprroom.co.uk. Phone: +44 (0) 333 9398 296

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(iv) Deal, et al (2018). Incident Hearing Loss and Comorbidity. A Longitudinal Administrative Claims Study

(v) Rönnberg et al., (2013) - The Ease of Language Understanding (ELU) model: theoretical, empirical, and clinical advances

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(viii) Amieva, (2018) -Death, Depression, Disability, and Dementia Associated with Self-reported Hearing Problems: A 25-Year Study

(ix) Livingston, et al (2017). Dementia presentation, intervention, and care. The Lancet, 17:31363-6