Groundbreaking approaches such as cell therapies on the horizon for transformation of neural hearing loss, Rinri Therapeutics' review[1] shows

Elevating the importance of neural health via better diagnosis and treatment is crucial for restoration of natural hearing, JARO review concludes

- *The role of neural hearing loss (NHL) in development of hearing impairment is increasingly recognised by the clinical community as central to hearing loss.*
- *NHL represents a significant unmet medical need as there are no approved drug treatments, and standard devices are sub-optimal.*
- *There is significant promise of improved clinical outcomes for patients from the innovative and targeted treatments in development for NHL, such as Rinri Therapeutics' regenerative cell therapy Rincell-1, alongside better diagnosis.*
- *The authors call for more research to drive increased diagnosis of NHL and better outcomes for people with this widespread condition.*

Sheffield, UK, April 21 2026 – Rinri Therapeutics, a world leading company focused on transforming the lives of people with sensorineural hearing loss (SNHL) through regenerative cell therapy, has authored a comprehensive review of the contribution of neural hearing loss (NHL), driven by dysfunction of the auditory nerve in the ear, to hearing impairments. As its role is increasingly recognised, there is significant promise for patients from innovative and targeted treatments for neural hearing loss coupled with improved diagnosis. There is a wave of therapies at the auditory nerve level in development, including Rinri Therapeutics' first-in-class otic neural progenitor regenerative cell therapy Rincell-1[2].

NHL is responsible for a range of hearing disorders including auditory neuropathy spectrum disorder (ANSD) and playing a significant role in the development of presbycusis or age-related hearing loss. Symptoms include difficulties with real world hearing function, speech recognition and particularly distinguishing 'speech in noise', for example in a crowded place. Standard devices such as hearing aids and cochlear implants are unsatisfactory where there is NHL as they are designed to counter hair cell loss, not nerve cell loss. There is no approved drug treatment for neural hearing loss, leaving patients with poor outcomes.

In the review, *'Neural Hearing Loss: Mechanisms, Diagnosis and Treatment Horizons*', the company highlights the range of interventions in development to address this unmet medical need. Emerging strategies for neural protection include small molecules, neutrophins, direct reprogramming, drug delivery systems and gene-based therapies. However it is only cell therapies such as Rincell-1 which offer the potential for true repair and regeneration. Recent approval of a UK clinical trial application for a first-in-human trial of Rincell-1 is a significant step in the development of a regenerative cell therapy approach to NHL.

Recognising the likely underdiagnosis of NHL, despite its high prevalence, due to factors such as a lack of sensitive and specific tests, the inaccessibility of the cochlea and lack of specific treatments, the authors call for more research in this area. This could include development of biomarkers and increased 'speech in noise' testing as routine.

'**Consolidating the extensive neural hearing loss research into this review highlights the central role it plays in hearing loss conditions. With today's increased understanding of NHL, a paradigm shift is underway to improve outcomes for people with this widespread but underdiagnosed condition'**, said lead authors Drs Eleni Genitsaridi and Efstratia Papoutselou of Rinri Therapeutics.

'**It is encouraging to see targeted medicines, such as Rinri Therapeutics' first-in-class regenerative cell therapy Rincell-1, in development for neural hearing loss. There have been advances in NHL diagnosis although further research is needed to make testing simpler and more routine. We are confident that continued progress in these areas will restore natural hearing to people with NHL, meaning that hearing loss does not have to be inevitable**.', they added.

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[1] Genitsaridi, E., Papoutselou, E., Campbell-Bell, C.M. *et al.* Neural Hearing Loss: Mechanisms, Diagnosis and Treatment Horizons. *Journal of the Association for Research in Otolaryngology* (2026).

[2] Rincell-1 consists of otic neural progenitor cells designed to regenerate auditory neurons and is expected to enter the clinic shortly

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About Rinri Therapeutics

Rinri Therapeutics is focused on transforming sensorineural hearing loss (SNHL) with regenerative cell therapy, providing new therapeutic options for the treatment of this major global unmet medical need. It is developing first-in-class allogenic cell therapy products to treat hearing loss using its proprietary Otic Sensory Progenitor REgenerative therapY (OSPREY™) platform.

There are currently no approved therapeutics for the estimated more than 7m people living with neural hearing loss globally, giving Rinri Therapeutics' cell therapies a multi-billion dollar sales potential. The company is headquartered in Sheffield, UK, and backed by UCB Ventures, Boehringer Ingelheim Venture Fund and Pioneer Group. For more information, please visit https://www.rinri-therapeutics.com/ or follow us on LinkedIn.