Introduction to Age-Related Hearing Loss

Chris Plack
Effects of Age on Hearing Thresholds

Carcagno and Plack (2020)
Effects of Age on Speech-in-Noise Difficulties

Dawes et al. (2014), UK Biobank, n = 165,000, digit triplet test
Peripheral Auditory System

- Outer ear
- Middle ear
- Inner ear
- Auditory nerve
Ageing is Associated with Loss of Hair Cells and Auditory Nerve Fibres

Wu et al. (2021)
Auditory Brainstem Response

Schaette and McAlpine (2011)
Ageing Affects Auditory Nerve Response, Even Controlling for Audiometric Threshold

Carcagno and Plack (2020)
Ageing is associated with a clinical hearing loss, especially at high frequencies, and with difficulties understanding speech in noisy environments.

Clinical hearing loss is caused by hair cell loss and dysfunction.

Listening ability may also be affected by age-related neural loss.
Funders:

MRC Medical Research Council

BBSRC bioscience for the future

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