

XVII CONGRESO

NACIONAL DE LA ASOCIACIÓN
ESPAÑOLA DE AUDIOLOGÍA

4 y 5 de Junio 2021 • Virtual



Luces y sombras en la pérdida de audición oculta

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AJA

Research Article


Discovering the Unmet Needs of People With Difficulties Understanding Speech in Noise and a Normal or Near-Normal Audiogram

Kiri Mealings,^a Ingrid Yeend,^a Joaquin T. Valderrama,^{a,b} Megan Gilliver,^a Jermy Pang,^a Jason Heeris,^a and Pamela Jackson^a


American Journal of Audiology • Vol. 29 • 329–355 • September 2020 • Copyright © 2020 American Speech-Language-Hearing Association



Tengo que hacer un gran esfuerzo para escuchar.
No siempre escucho lo que están hablando alrededor mía. Me requiere muchísima concentración.



Otra gente debe ser capaz de filtrar el ruido de fondo y reducirlo para poder centrarse en la conversación. **Yo debo tener un problema porque no puedo hacer eso.**

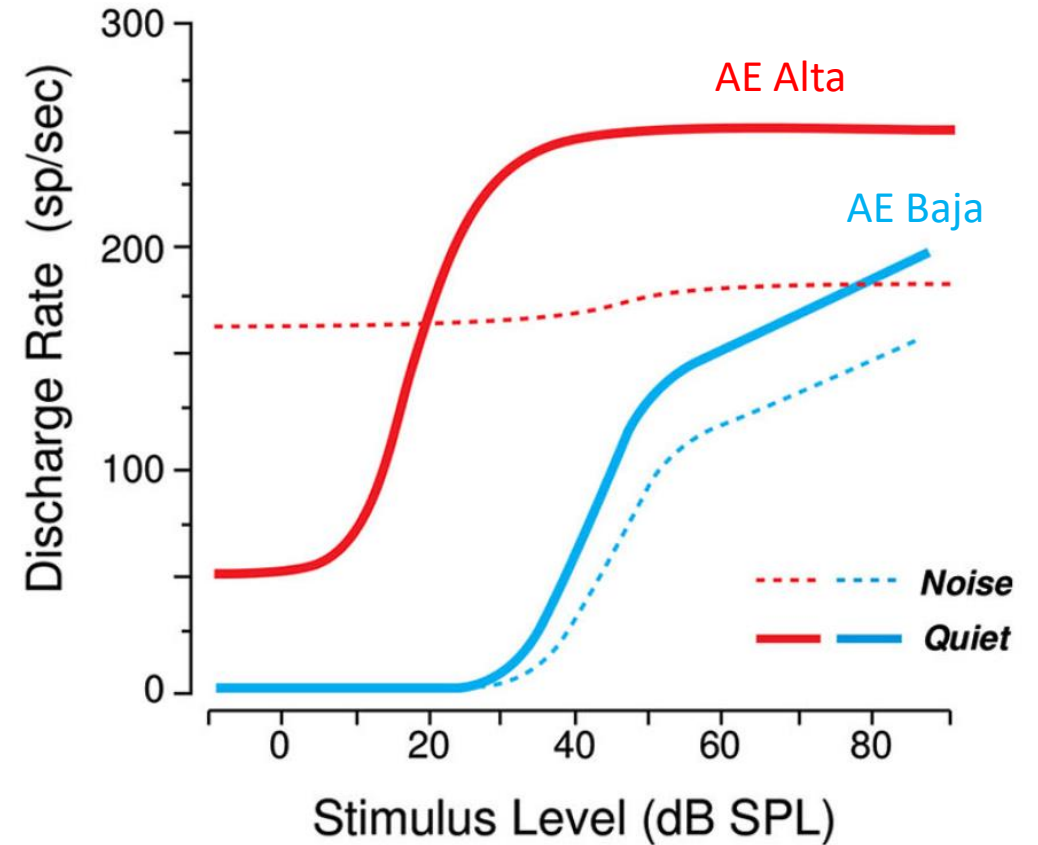
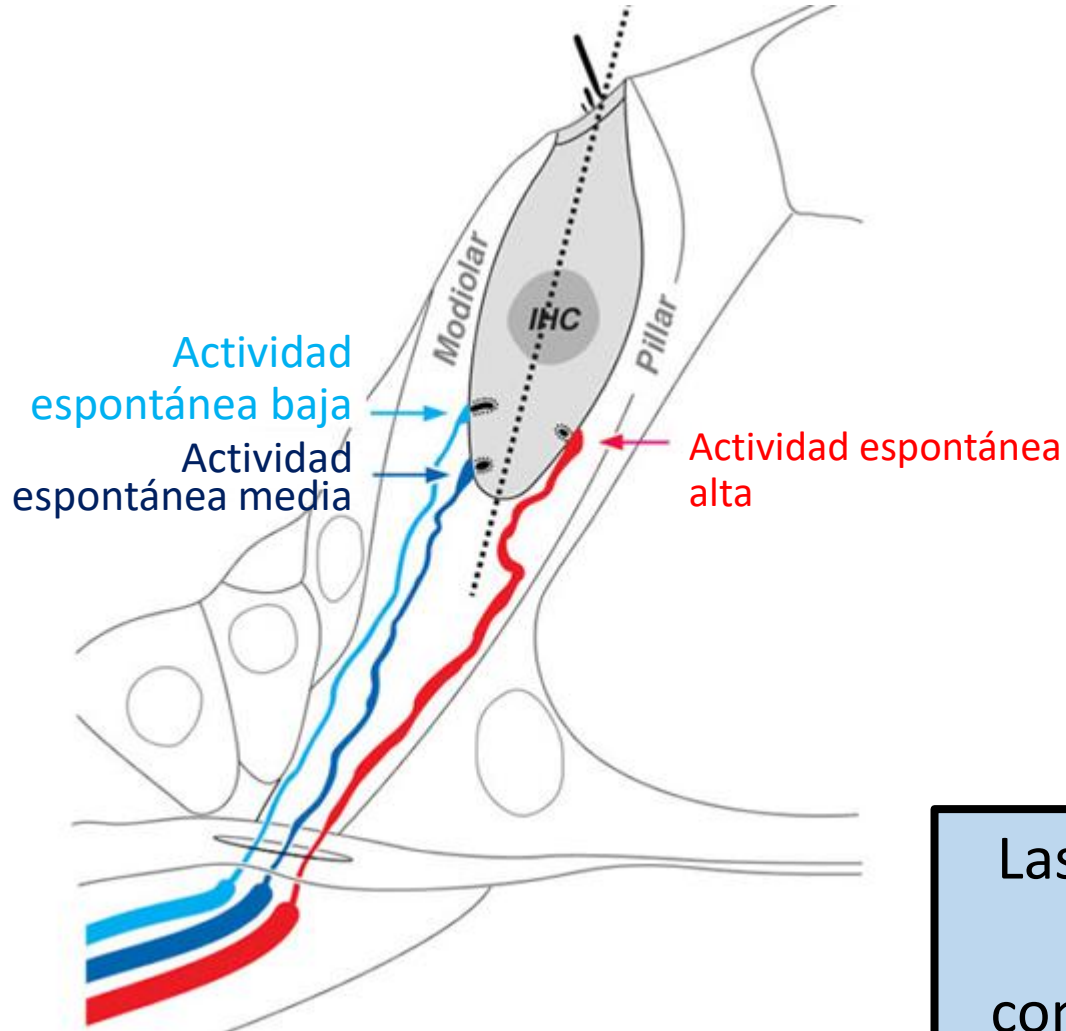


No hay realmente un test que muestre la patología asociada a problemas de comprensión en ambientes ruidosos.

ansiedad
frustración
incomprensión constante
cambio de comportamiento
calidad de vida
confusión

Mecanismos neuronales para entender la voz en ruido

▪ 120 dB $\rightarrow I_{\max} = 1,000,000,000,000 \cdot I_{\min}$

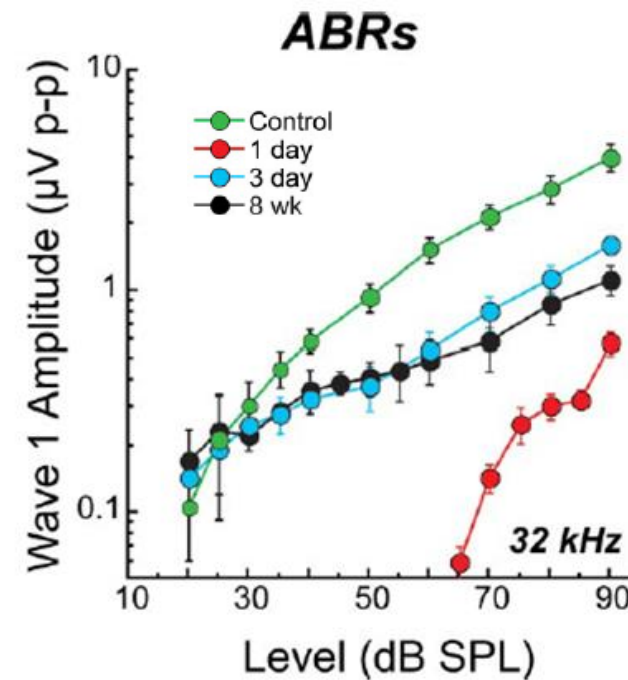
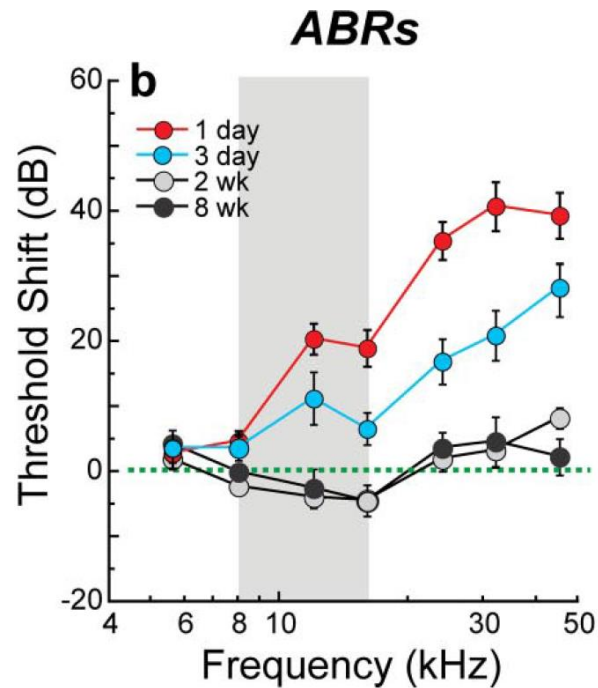


Las fibras de AE baja juegan un papel fundamental en la comprensión de la voz en ruido

- Ratones anestesiados
- Ruido de 8-16 kHz
- 2 h, 100 dB SPL

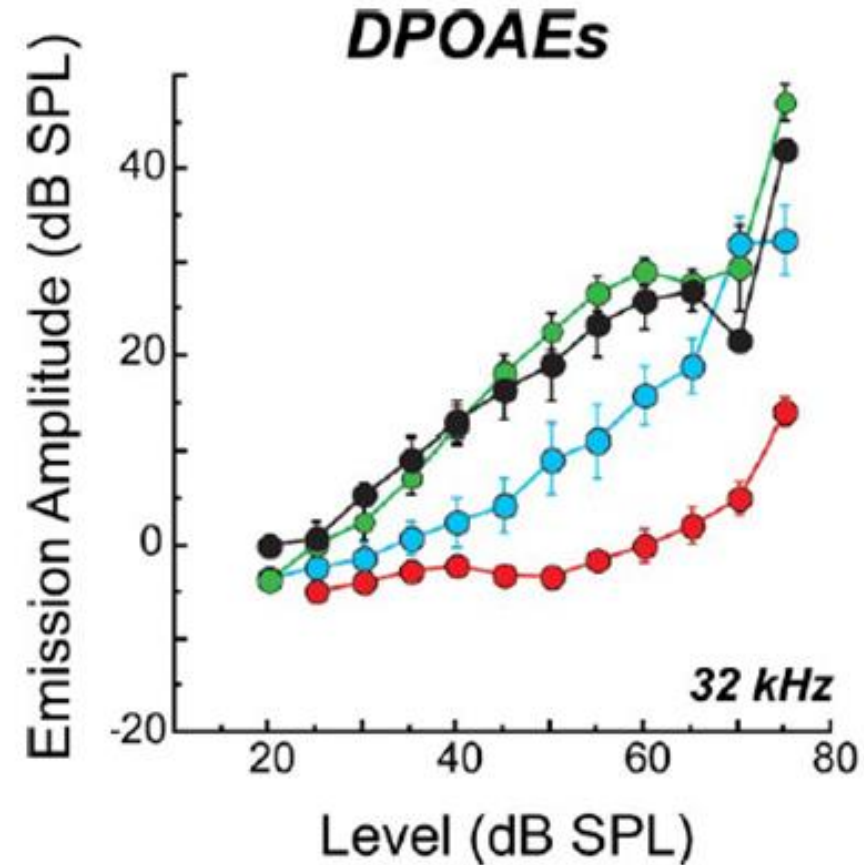
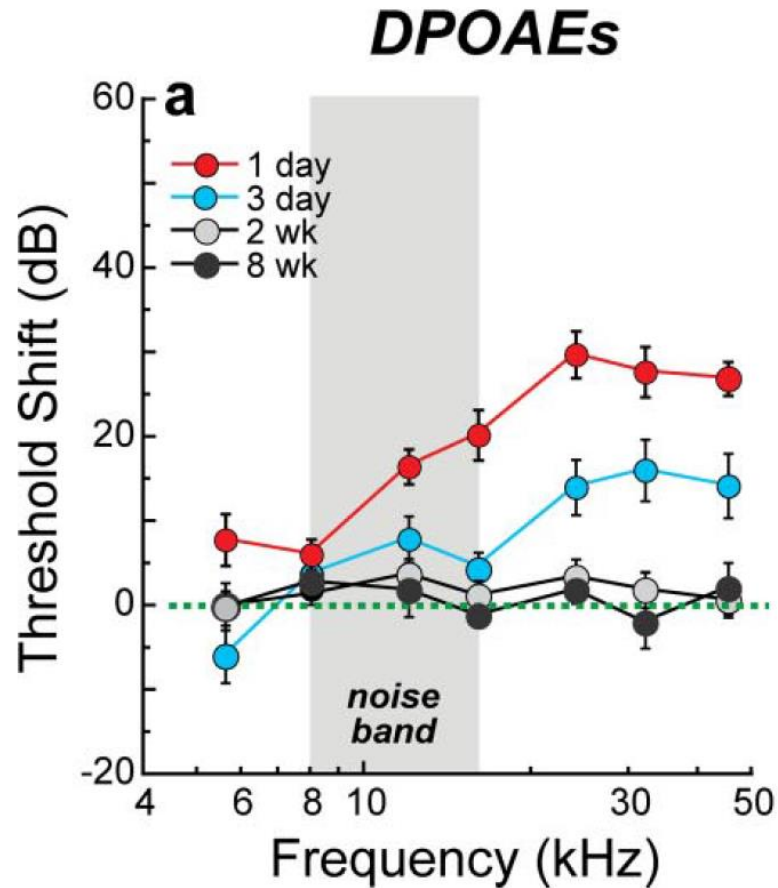
Adding Insult to Injury: Cochlear Nerve Degeneration after “Temporary” Noise-Induced Hearing Loss

Sharon G. Kujawa^{1,2,3,4} and M. Charles Liberman^{1,2,4}

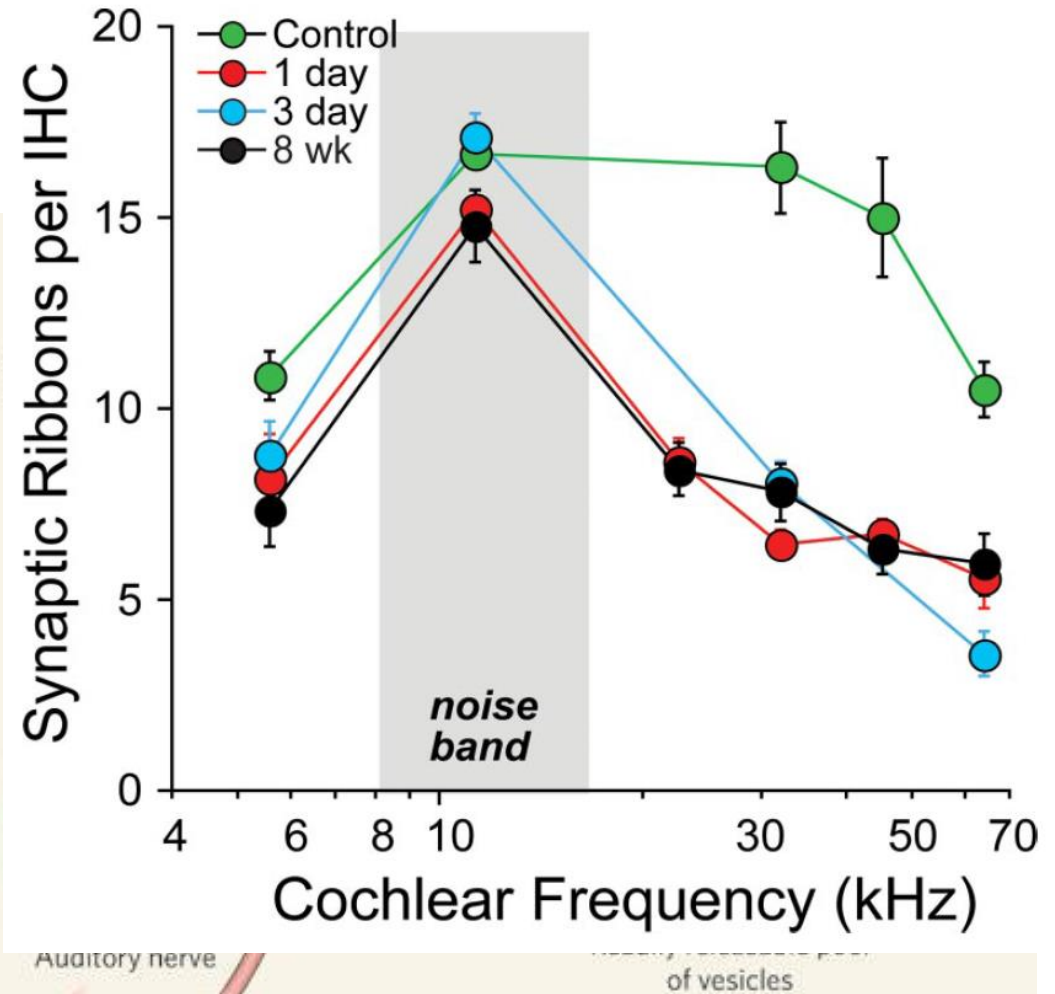
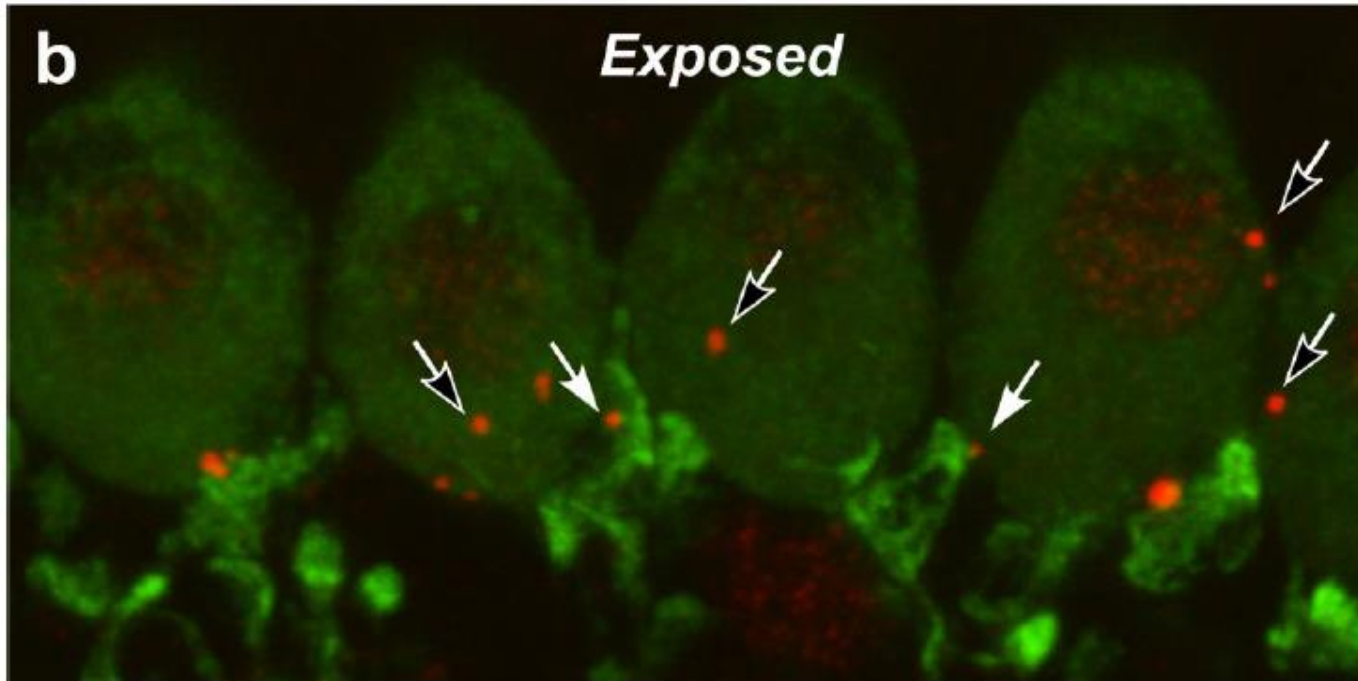
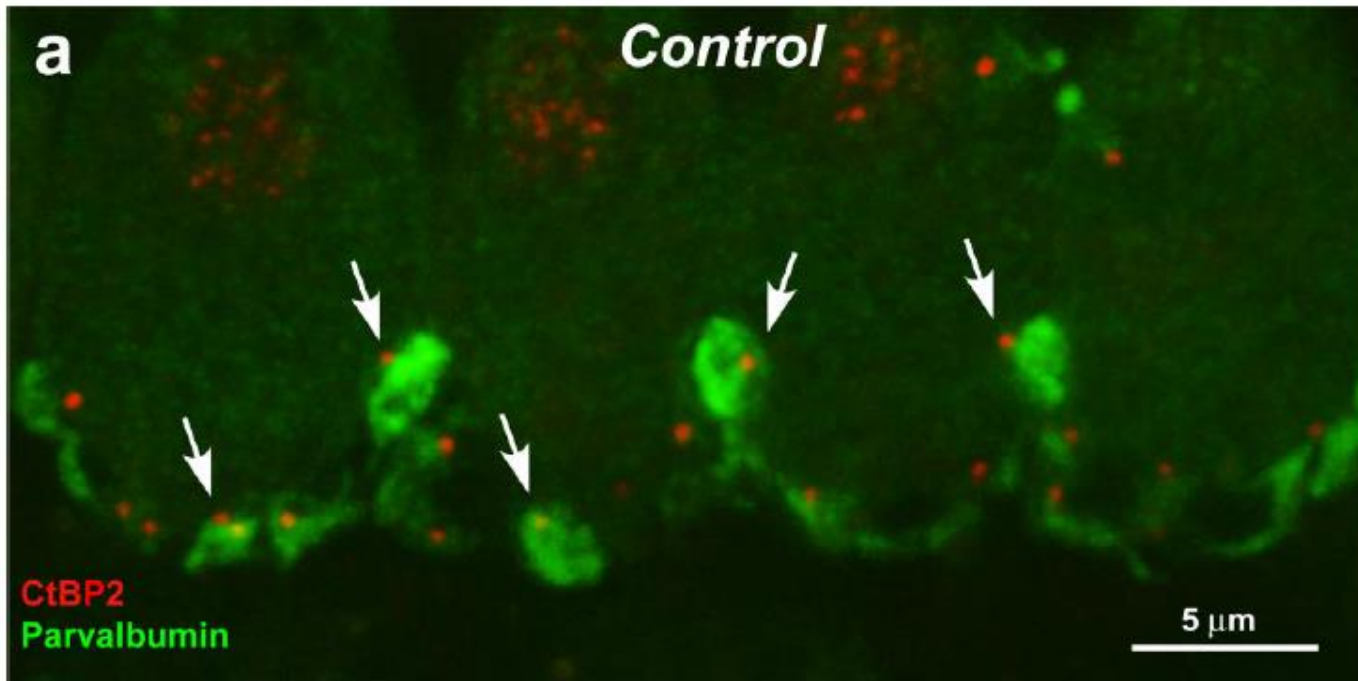


La exposición al ruido daña las fibras de AE baja

¿Y qué ocurrió con la células ciliadas?



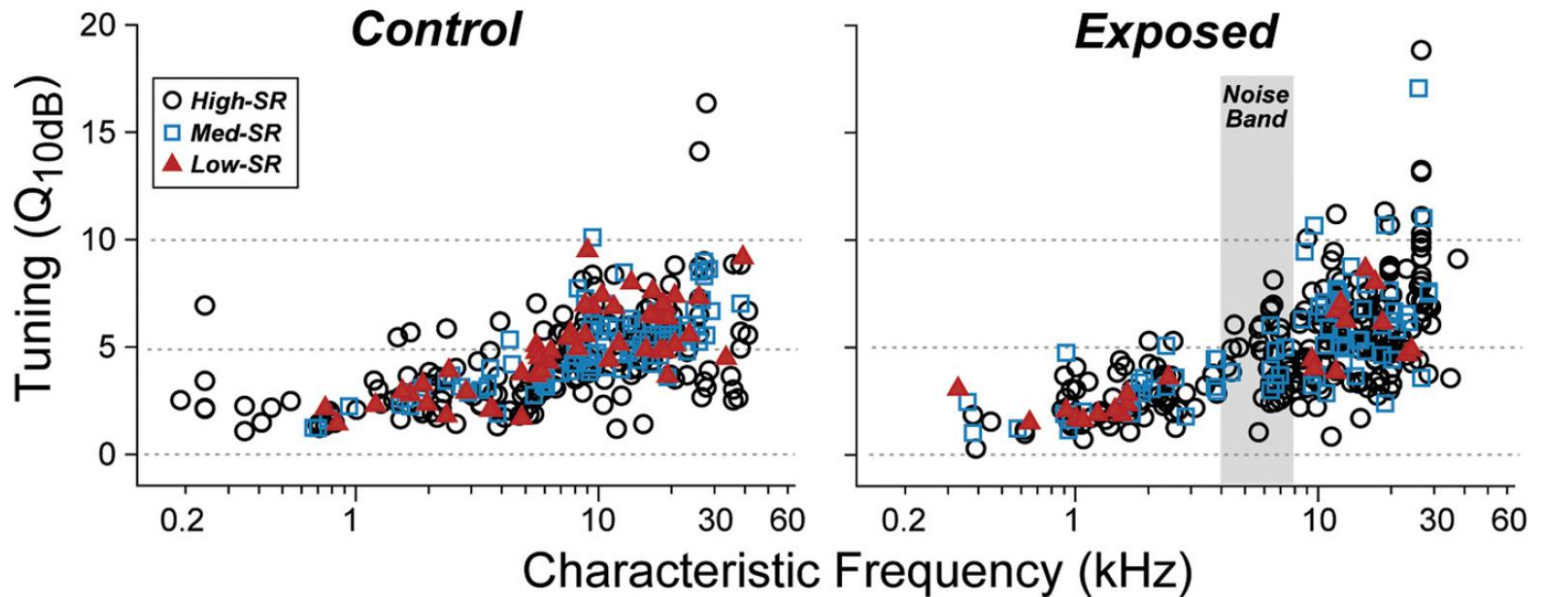
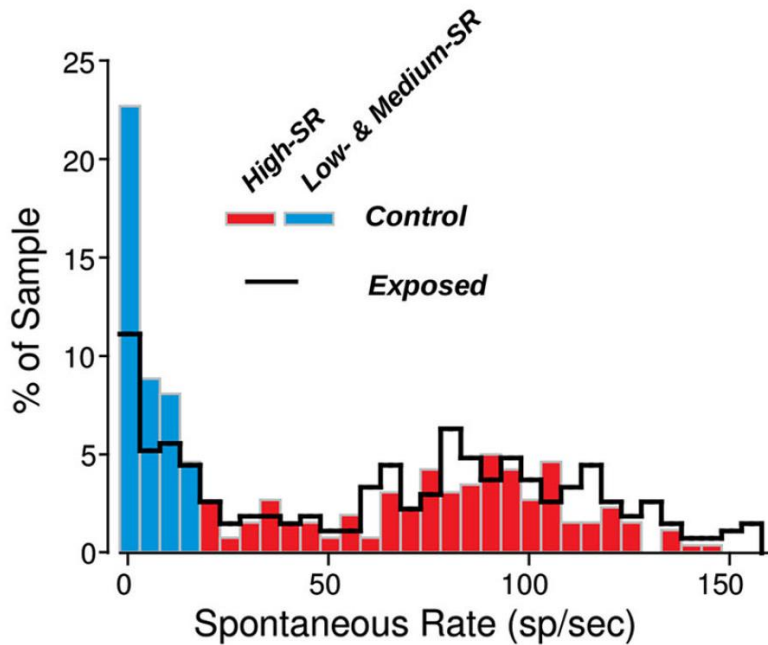
Las células ciliadas se recuperan de la exposición al ruido



La exposición al ruido
“disconecta” las células ciliadas
de las terminales nerviosas


Noise-induced cochlear neuropathy is selective for fibers with low spontaneous rates

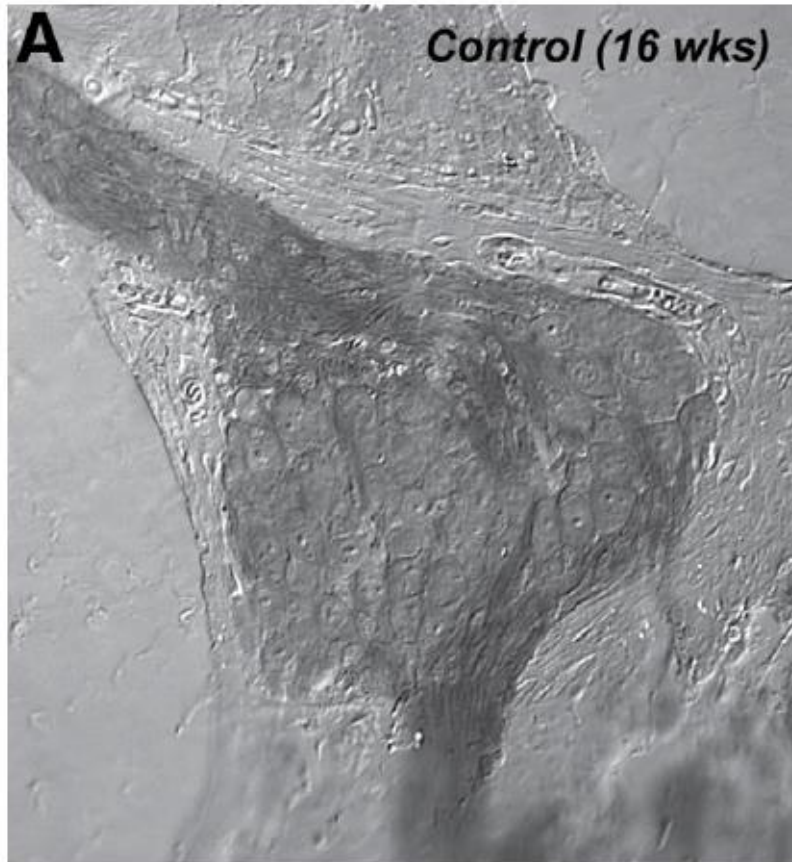
Adam C. Furman,^{2,4} Sharon G. Kujawa,^{1,3,4} and M. Charles Liberman^{1,2,4}

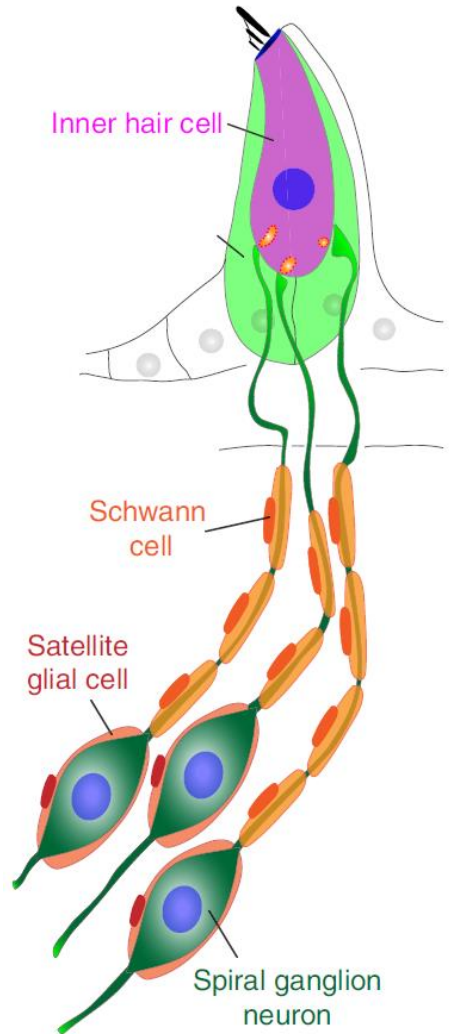


La exposición al ruido afecta a las fibras con AE baja

Aging after Noise Exposure: Acceleration of Cochlear Synaptopathy in “Recovered” Ears

Katharine A. Fernandez,^{1,2}  Penelope W.C. Jeffers,² Kumud Lall,^{1,2} M. Charles Liberman,^{1,2} and Sharon G. Kujawa^{1,2,3}





ARTICLE

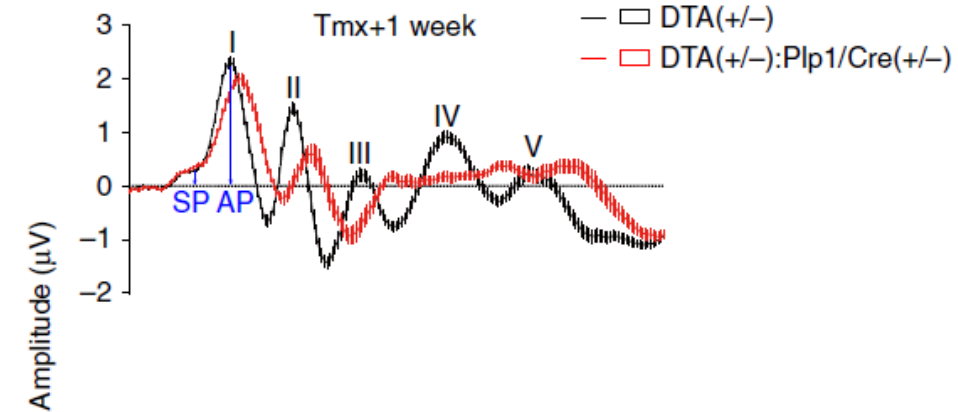
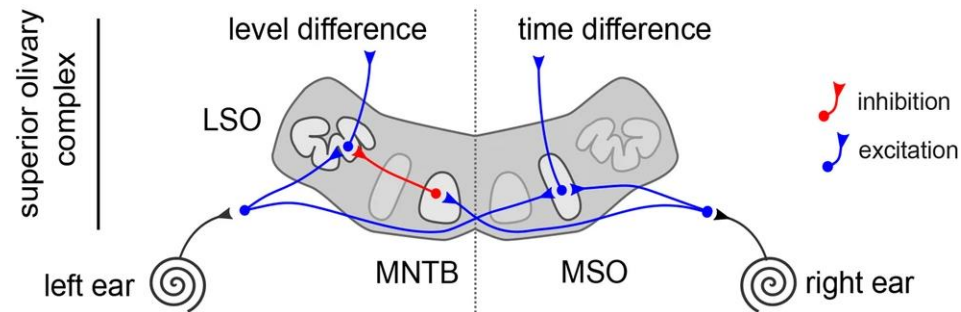
Received 23 Nov 2016 | Accepted 4 Jan 2017 | Published 17 Feb 2017

DOI: 10.1038/ncomms14487

OPEN

Transient auditory nerve demyelination as a new mechanism for hidden hearing loss

Guoqiang Wan^{1,2} & Gabriel Corfas¹





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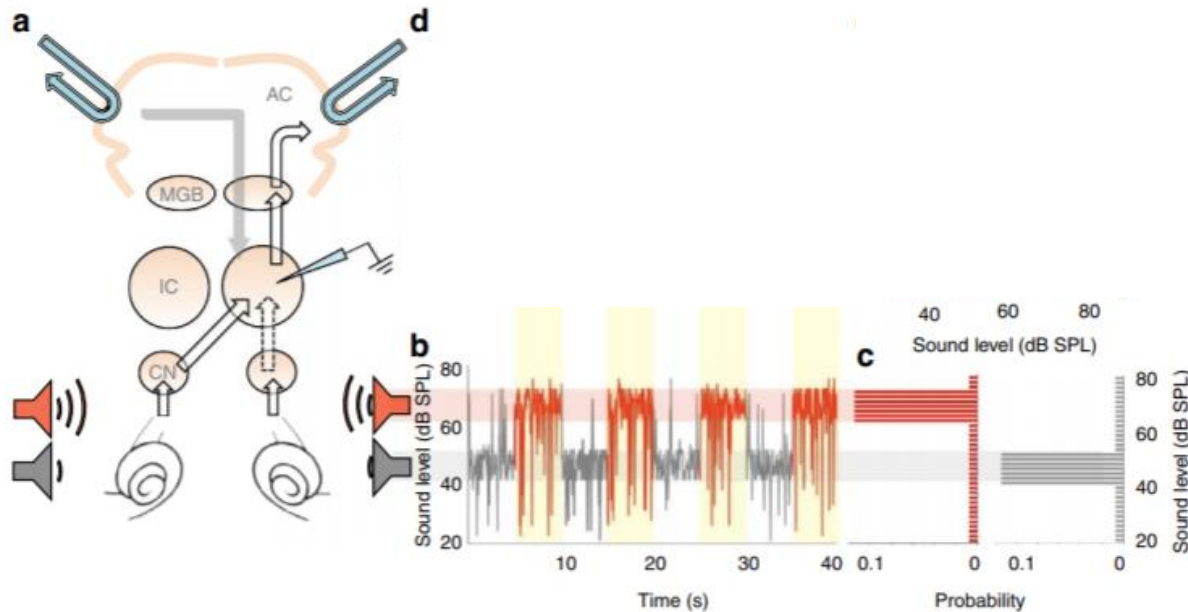
Received 5 Jul 2016 | Accepted 4 Oct 2016 | Published 24 Nov 2016

DOI: 10.1038/ncomms13442

OPEN

Meta-adaptation in the auditory midbrain under cortical influence

Benjamin L. Robinson^{1,2,*}, Nicol S. Harper^{3,4,*} & David McAlpine^{1,5}



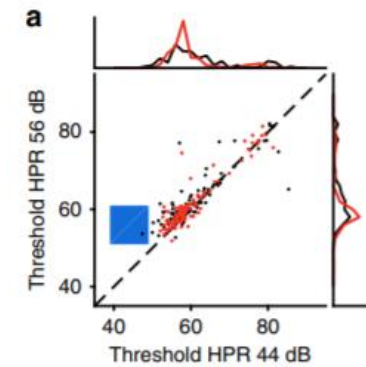
ARTICLE

DOI: 10.1038/s41467-018-06777-y

OPEN

Hidden hearing loss selectively impairs neural adaptation to loud sound environments

Warren Michael Henry Bakay^{1,2}, Lucy Anne Anderson¹, Jose Alberto Garcia-Lazaro¹, David McAlpine^{1,3} & Roland Schaette¹

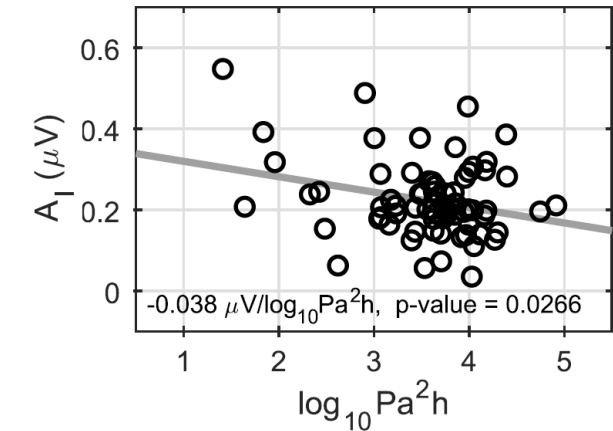
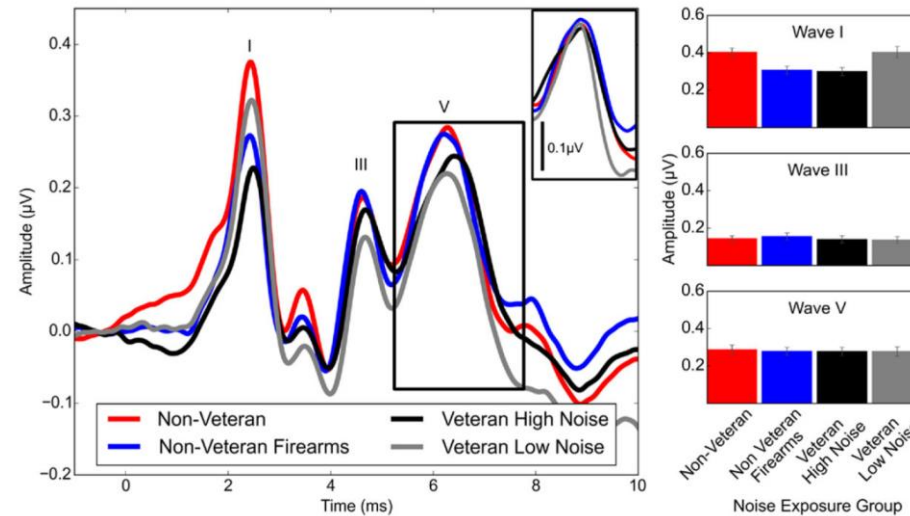
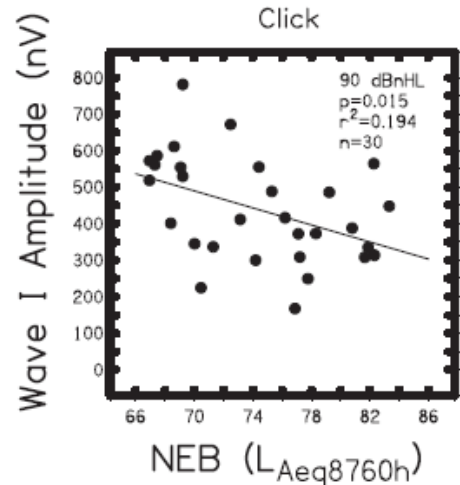


STAMPER AND JOHNSON / EAR & HEARING, VOL. 36, NO. 2, 172–184

Auditory Function in Normal-Hearing, Noise-Exposed Human Ears

Auditory Brainstem Response Altered in Humans With Noise Exposure Despite Normal Outer Hair Cell Function

Naomi F. Bramhall¹, Dawn Konrad-Martin^{1,2}, Garnett P. McMillan¹, and Susan E. Griest^{1,2}

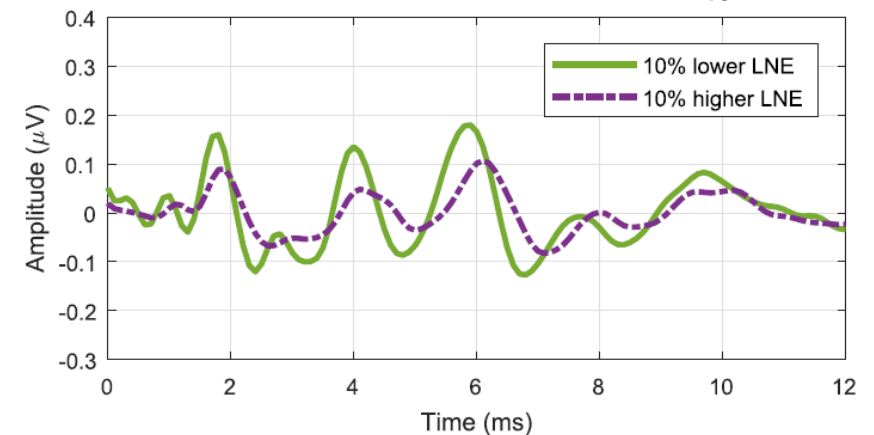


Research Paper

Hearing Research 365 (2018) 36–48

Effects of lifetime noise exposure on the middle-age human auditory brainstem response, tinnitus and speech-in-noise intelligibility

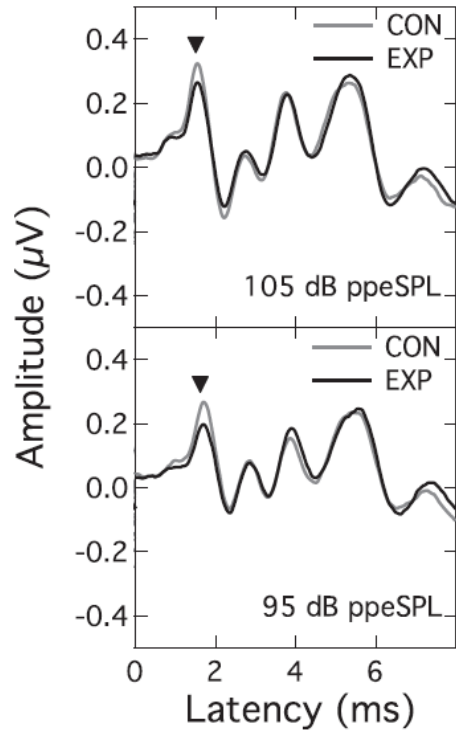
Joaquin T. Valderrama^{a, b, c, *}, Elizabeth Francis Beach^{a, c}, Ingrid Yeend^{a, b, c}, Mridula Sharma^{b, c}, Bram Van Dun^{a, c}, Harvey Dillon^{a, c}



Loud Music Exposure and Cochlear Synaptopathy in Young Adults: Isolated Auditory Brainstem Response Effects but No Perceptual Consequences

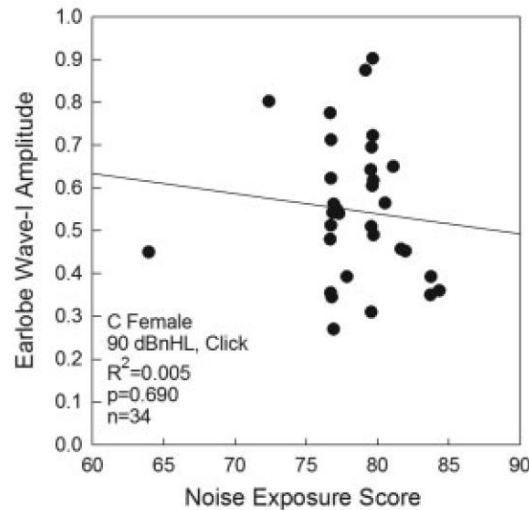
John H. Grose¹, Emily Buss¹, and Joseph W. Hall III¹

Trends in Hearing
Volume 21: 1–18
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DOI: 10.1177/2331216517737417
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Effects of Recreational Noise on Threshold and Suprathreshold Measures of Auditory Function

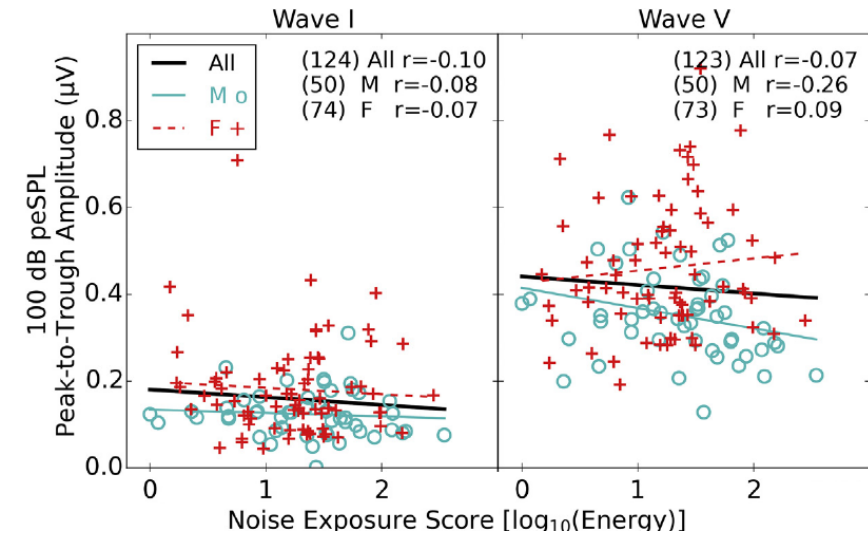
Angela N.C. Fulbright, Au.D., Ph.D.,² Colleen G. Le Prell, Ph.D.,¹ Scott K. Griffiths, Ph.D.,² and Edward Lobarinas, Ph.D.¹



Research Paper

Effects of noise exposure on young adults with normal audiograms I: Electrophysiology

Garreth Prendergast^{a,*}, Hannah Guest^a, Kevin J. Munro^{a,b}, Karolina Kluk^a, Agnès Léger^a, Deborah A. Hall^{c,d}, Michael G. Heinz^e, Christopher J. Plack^{a,f}

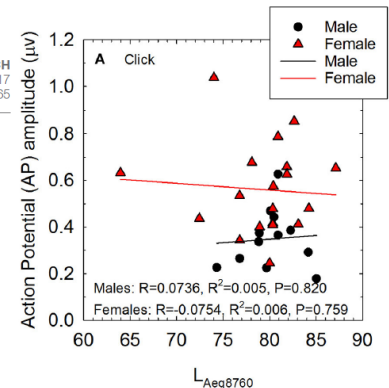


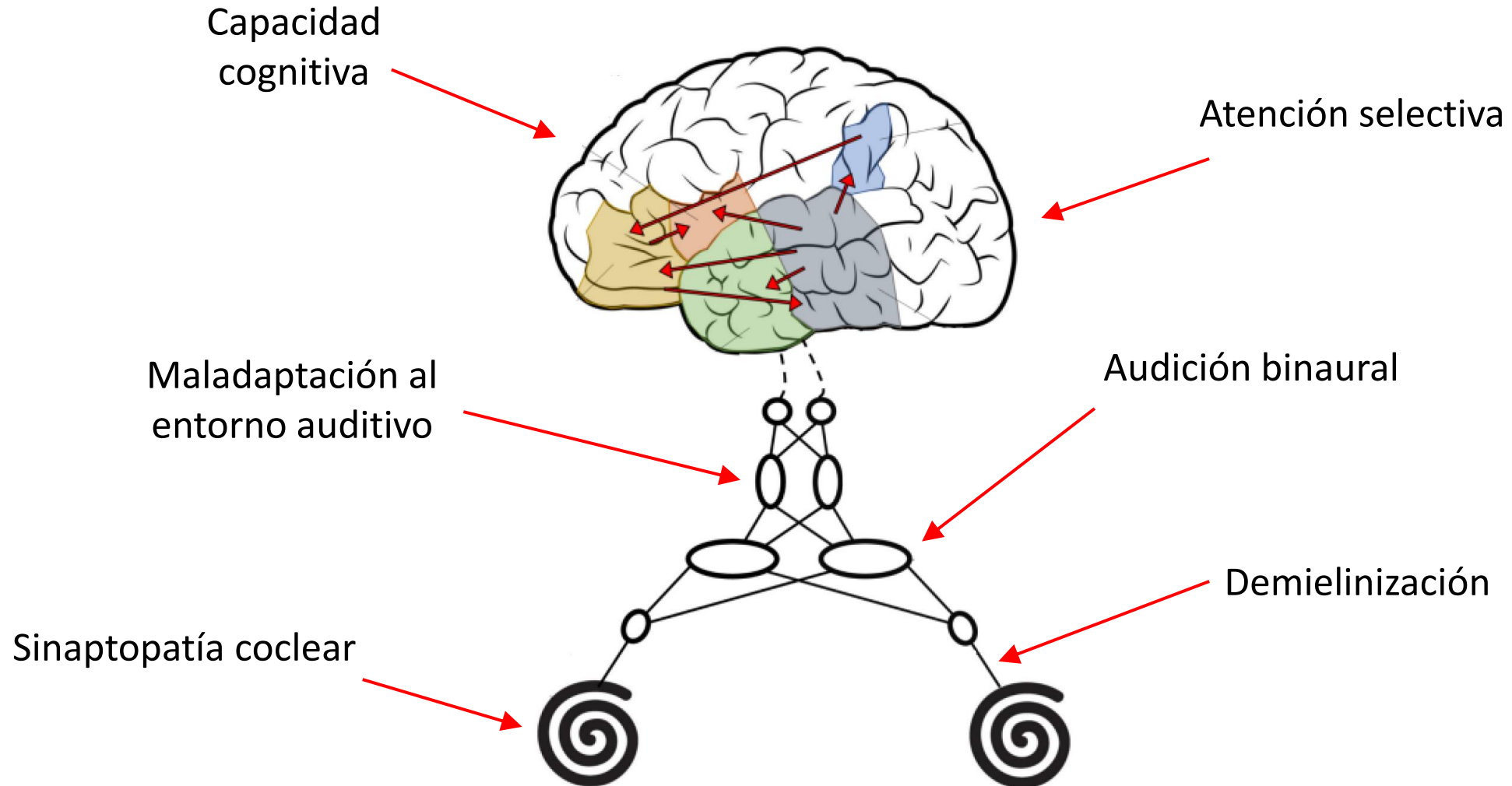
frontiers
in Neuroscience

Hidden Hearing Loss? No Effect of Common Recreational Noise Exposure on Cochlear Nerve Response Amplitude in Humans

Sarah K. Grinn^{1,2}, Kathryn B. Wiseman¹, Jason A. Baker¹ and Colleen G. Le Prell^{1*}

ORIGINAL RESEARCH
published: 01 September 2017
doi: 10.3389/fnins.2017.00465





- La pérdida de audición oculta es un problema real.
- Los estudios en animales muestran que varias patologías pueden estar relacionadas
 - la sinaptopatía coclear,
 - la Demielinización del nervio auditivo, y
 - la maladaptación neuronal al entorno auditivo.
- Los estudios en humanos presentan dificultades a la hora de obtener índices neurofisiológicos relacionados con este problema de audición
- Nuevos enfoques son necesarios para obtener herramientas de diagnóstico precisas



Australian Hearing Hub

Macquarie University campus, Sydney, Australia

A faint, light blue world map is visible in the background, centered behind the text.

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