

Say what? Like animals, people perk up their ears to hear

August 4 2020



(HealthDay)—Like many other animals, people can move their ears to

focus on a specific sound, researchers say.

However, this movement of [ears](#) is subtle and the ability to do it hasn't been known until now.

By measuring electrical signals in ear muscles as volunteers tried to detect sounds, researchers found that people make tiny, unconscious movements to aim their ears at a particular sound.

"The [electrical activity](#) of the ear muscles indicates the direction in which the subject is focusing their auditory attention," said study leader Daniel Strauss, neuroscientist at Saarland University in Germany. "It is very likely that humans still possess a rudimentary orientation system that tries to control the [movement](#) of the pinna (the visible outer part of the ear)."

Even though this system, called pinna orienting, fell into disuse about 25 million years ago, Strauss said it exists as a "neural fossil" within the [human brain](#).

It's not clear why pinna orienting was lost during [human evolution](#), according to the authors of the study published online recently in the journal *eLife*.

For the study, researchers measured [electrical signals](#) of ear muscles and also made special high-definition video recordings of study volunteers. They were then able to detect the subtle ear movements by using computer-based motion magnification techniques.

Depending on the type of sound, they saw different upward ear movements and differences in the strength of rearward motion.

"Our results show that electromyography of the ear muscles offers a

simple means of measuring auditory attention," Strauss said, adding that the technique has the potential for other applications.

It could, he said, lead to hearing aids that would amplify sounds the wearer is trying to hear and suppress ones they are trying to ignore.

"The device would function in a way that reflects the user's auditory intention," Strauss said.

Such a [hearing aid](#) would quickly detect and interpret electrical activity in the ear muscles. A miniature processor would assess where the wearer is trying to aim their hearing and adjust the gain on the device's directional microphones accordingly, he explained.

More information: The U.S. National Institute on Deafness and Other Communication Disorders has more on [hearing and related topics](#).

Copyright © 2020 [HealthDay](#). All rights reserved.

Citation: Say what? Like animals, people perk up their ears to hear (2020, August 4) retrieved 28 April 2024 from <https://medicalxpress.com/news/2020-08-animals-people-perk-ears.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--