

Our faces, not just our ears 'hear' speech: study

January 20 2009

(PhysOrg.com) -- A McGill-led study has found that the perception of speech sounds is modified by stretching facial skin in different directions. Different patterns of skin stretch affect how subjects perceive different words.

Researchers used a robotic device to manipulate the facial skin in ways that would normally be experienced when we speak. They found that stretching the skin while subjects simply listen to words alters the sounds they hear.

In an article published in the current issue of the *Proceedings of the National Academy of Sciences* (PNAS), McGill neuroscientist David Ostry of the Department of Psychology, reports his results testing a group of 75 native speakers of American English.

Ostry and his colleagues at the Haskins Laboratories and Research Laboratories of Electronics, Massachusetts Institute of Technology, had subjects listen to words one at a time that were selected from a computer-produced continuum between the words “head” and “had”. When they stretched the skin upward, words sounded more like “head”. With downward stretch, they sounded more like “had.” A backward stretch had no perceptual effect. They found that the subjects clearly were influenced in their choices by how their facial skin was being manipulated.

"Our study provides clues on how the brain processes speech. There is a

broad non-auditory basis to speech perception. This study indicates that perception has neural links to the mechanisms of speech production" said Ostry.

Provided by McGill University

Citation: Our faces, not just our ears 'hear' speech: study (2009, January 20) retrieved 24 April 2024 from <https://medicalxpress.com/news/2009-01-ears-speech.html>

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.