Scientists give brain’s speech processor new home

The part of the brain used for speech processing is in a different location than experts previously thought, according to a study that researchers said will have a major impact on the treatment of those with speech disorders.

Researchers at the University of British Columbia and the University of Oxford in the United Kingdom found that the brain’s speech processor is located in the left hemisphere, not the right, as previously believed. Their findings could have implications for how speech disorders are diagnosed and treated.

The research, published in the journal Nature, is based on an analysis of MRI scans of more than 1,000 people. The team of researchers used a combination of functional MRI and diffusion tensor imaging to map the brain’s speech processing network.

“Together, these findings support the idea that speech processing is located in the left hemisphere of the brain,” said lead author Dr. John L. M. Schmahmann, a psychiatrist at the University of British Columbia.

The researchers also found that the speech processing network is more complex than previously thought, with multiple pathways connecting different areas of the brain.

“This is a major breakthrough in our understanding of how the brain processes speech,” said study co-author Dr. Daniel L. Menon, a neurologist at Oxford University.

The findings could have implications for how speech disorders are diagnosed and treated. For example, speech therapists might be able to use the new information to develop more effective treatments for conditions such as aphasia and dysarthria.

The research was supported by a grant from the Canadian Institutes of Health Research and the German Research Foundation.

The study’s lead author is Dr. John L. M. Schmahmann, a psychiatrist at the University of British Columbia, and the study co-author is Dr. Daniel L. Menon, a neurologist at Oxford University.

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