

Study: Brain makes call on which ear is used for cell phone

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If you're a left brain thinker, chances are you use your right hand to hold your cell phone up to your right ear, according to a new study from Henry Ford Hospital in Detroit.

The study finds a strong [correlation](#) between [brain](#) dominance and the ear used to listen to a cell phone, with more than 70 percent of [participants](#) holding their cell phone up to the ear on the same side as their [dominant hand](#).

Left brain dominate people – those whose speech and language center is on the left side of the brain – are more likely to use their right hand for writing and other everyday tasks.

Likewise, the Henry Ford study shows most left brain dominant people also use the phone in their right ear, despite there being no perceived difference in their hearing in the left or right ear. And, right brain dominant people are more likely to use their left hand to hold the phone in their left ear.

"Our findings have several implications, especially for mapping the language center of the brain," says Michael Seidman, M.D., FACS, director of the division of otologic and neurotologic surgery in the Department of Otolaryngology-Head and Neck Surgery at Henry Ford.

"By establishing a correlation between cerebral dominance and sidedness of cell phone use, it may be possible to develop a less-invasive, lower-

cost option to establish the side of the brain where speech and language occurs rather than the Wada test, a procedure that injects an anesthetic into the carotid artery to put half of the brain to sleep in order to map activity."

Dr. Seidman notes that the study also may offer additional evidence that cell phone use and brain, and head and neck tumors may not be linked.

If there was a strong connection, he says there would be a far more people diagnosed with cancer on the right side of their brain, head and neck – the dominate side for cell phone use. But it's likely that there is a time and "dose-dependence" to the development of tumors, he notes.

Study results will be presented Feb. 26 in San Diego at the 25th Mid-Winter Meeting of the Association for Research in Otolaryngology.

The study began with the simple observation that most people use their right hand to hold a cell phone to their right ear. This practice, Dr. Seidman says, is illogical since it is challenging to listen on the phone with the right ear and take notes with the right hand.

To determine if there is an association between sidedness of cell phone use and auditory or language hemispheric dominance, the Henry Ford team developed a online survey using modifications of the Edinburgh Handedness protocol, a tool used for more than 40 years to assess handedness and predict cerebral dominance.

The Henry Ford survey included questions about which hand was used for tasks such as writing; time spent talking on cell phone; whether the right or left ear is used to listen to phone conversations; and if respondents had been diagnosed with a brain or head and neck tumor.

It was distributed to 5,000 individuals who were either with an otology

online group or a patient undergoing Wada and MRI for non-invasive localization purposes. More than 700 responded to the online survey.

On average, respondents' cell phone usage was 540 minutes per month.

The majority of respondents (90 percent) were right handed, 9 percent were left handed and 1 percent was ambidextrous.

Among those who are right handed, 68 percent reported that they hold the phone to their right ear, while 25 percent used the left ear and 7 percent used both right and left [ears](#). For those who are left handed, 72 percent said they used their left ear for cell phone conversations, while 23 percent used their right ear and 5 percent had no preference.

The study also revealed that having a hearing difference can impact ear preference for cell phone use.

In all, the study found that there is a correlation between brain dominance and laterality of [cell phone](#) use, and there is a significantly higher probability of using the dominant hand side ear.

Provided by Henry Ford Health System

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