A recent study by the University of Colorado’s Department of Speech Language and Hearing Science looked at how neuroplasticity plays into the adaptation of the brain after hearing loss. More specifically, the study sought to answer two questions: *How does the brain adapt to hearing loss and what are the resulting implications?*

Neuroplasticity is, in effect, the brain’s ability to change at any age. Conventional wisdom used to view the brain as static and unable to change; scientists now know this is not true. In the case of hearing loss, the part of the brain devoted to hearing can actually become reorganized.

The participants in the study were adults and children with varying degrees of hearing loss. Some had only mild hearing loss while others were severely hearing impaired or deaf. Using up to 128 sensors attached to the scalp of each subject, the team of researchers used EEG recordings to measure brain activities in response to sound stimulation. By doing this, they were able to understand how the brains of people with different degrees of hearing loss respond differently than those of people with normal hearing.

Perhaps most importantly, the researchers found when hearing loss occurs, areas of the brain devoted to other senses such as vision or touch will take over the areas of the brain which normally process hearing. It’s a phenomenon called cross-modal cortical reorganization, which is reflective of the brain’s tendency to compensate for the loss of other senses. Essentially, the brain adapts to a loss by rewiring itself, which can have a serious effect on cognition.

Even in the early stages of hearing loss, the brain begins to reorganize. Knowing this, the solution could be as simple as early hearing loss screening programs for adults. Getting ahead of the decline through early intervention could prevent long-term cognitive issues later.

According to the National Institute on Deafness and Other Communication Disorders (NIDCD), 1 out of 3 people between the ages of 65 and 74 have some degree of hearing loss. The number increases to almost 50 percent for those over 75. However, less than 25 percent of people who need hearing aids actually get them and the average time someone with hearing loss waits to seek treatment is 7 years—a tremendous period of cognitive decline that is easily preventable.

**So, if you think a patient may have hearing loss, please encourage them to call REM Audiology to schedule an appointment.**