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Early sign language ‘colonizes’ the part of the brain needed to process speech and sound, damaging a deaf child’s chances of learning spoken English.



Brain and Language Laboratory for Neuroimaging

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- ▶ Early exposure to sign language appears to act as a biological “wedge” that opens up — and keeps open — the brain’s capacity to learn language patterning at the heart of spoken and written English.
- ▶ Recent neuroimaging studies have found that deaf individuals who learned sign language later in life, after cochlear implantation and intensive speech therapy, show the most atypical auditory tissue/brain activity during language processing. By contrast, deaf individuals who learned sign language first and early in life, followed by cochlear implantation and intensive speech training, show the most typical brain and auditory tissue processing for language. Their processing is, in fact, no different from that seen in hearing individuals.
- ▶ BL2 and VL2 studies have found that having a strong language foundation (i.e. in ASL) correlates with stronger speech abilities for children who can access speech through hearing aids or cochlear implants. Multiple studies have shown that deaf individuals who sign, speak better.
- ▶ Early ASL-English bilingual-bimodal language exposure does not block the development of speech, but late exposure may impair language and cognitive development.

Implications: Parents and educators need not fear that early exposure to sign language will damage a deaf child’s chances of learning spoken English. Nor does ASL “take over” the part of the brain needed for processing speech and sound. To achieve the benefits to speech and spoken language, it is essential that exposure is provided during the all-critical early language developmental period.