

Figure 1: Schematic of a scenario in which a listener is attending to target speech, in the presence of competing sounds that are either spatially near the target (panel A) or spatially separated from the target (panel B).

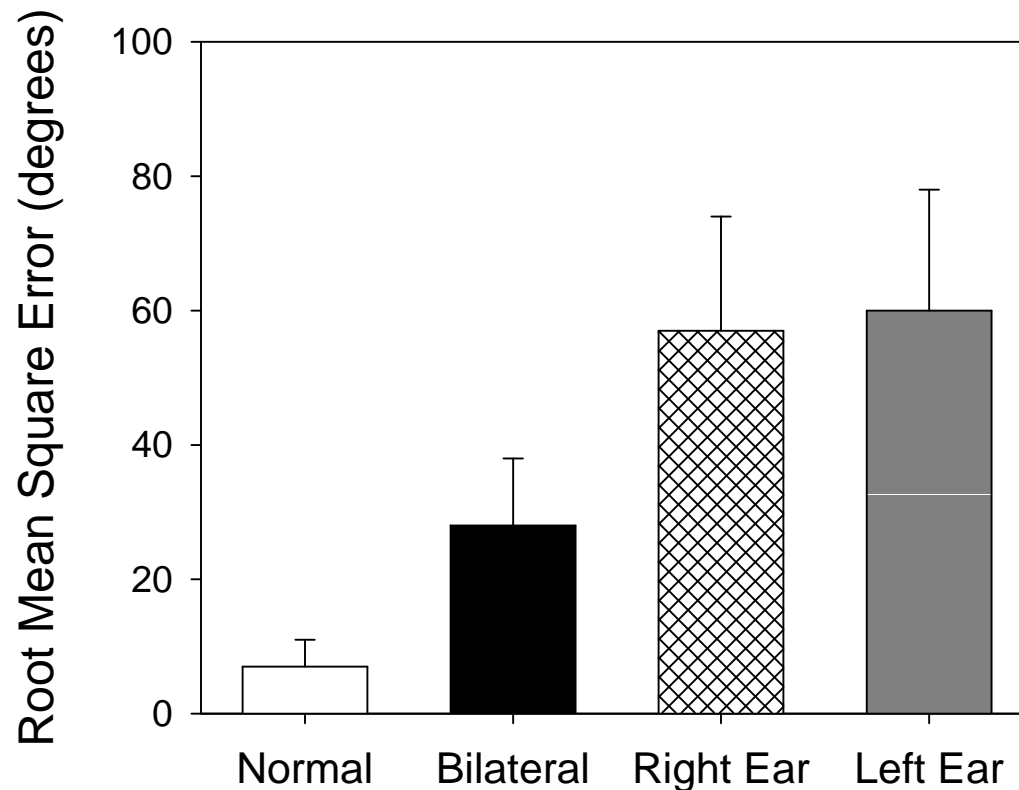


Figure 2: Average sound localization errors, quantified as RMS (root mean square) errors, measured in 17 adults who received bilateral cochlear implants in simultaneous procedures. RMS errors are shown for conditions in which testing was conducted with only one implant activated (Left ear or Right ear), when both implants were activated (Bilateral), and when listeners with normal-hearing were tested (Normal). Data adapted from Litovsky et al. (2004).

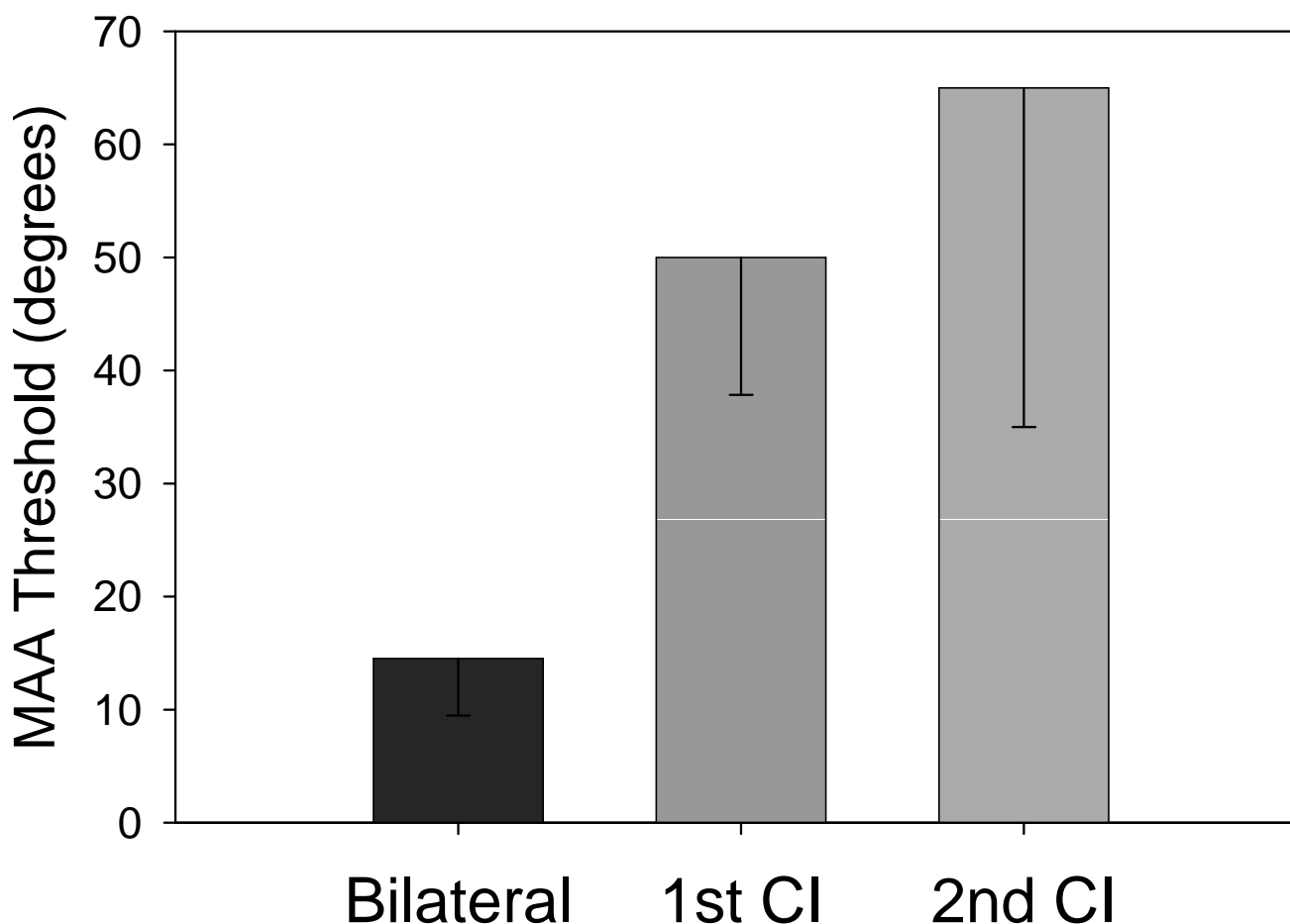


Figure 3: Minimum Audible Angle (MAA) thresholds for a group of 18 children who received bilateral cochlear implants in sequential procedures are shown for conditions in which testing was conducted with either the first-implanted ear (1st CI), second-implanted ear (2nd CI) or when both implants were activated (Bilateral). Data adapted from Litovsky et al. (2006b).

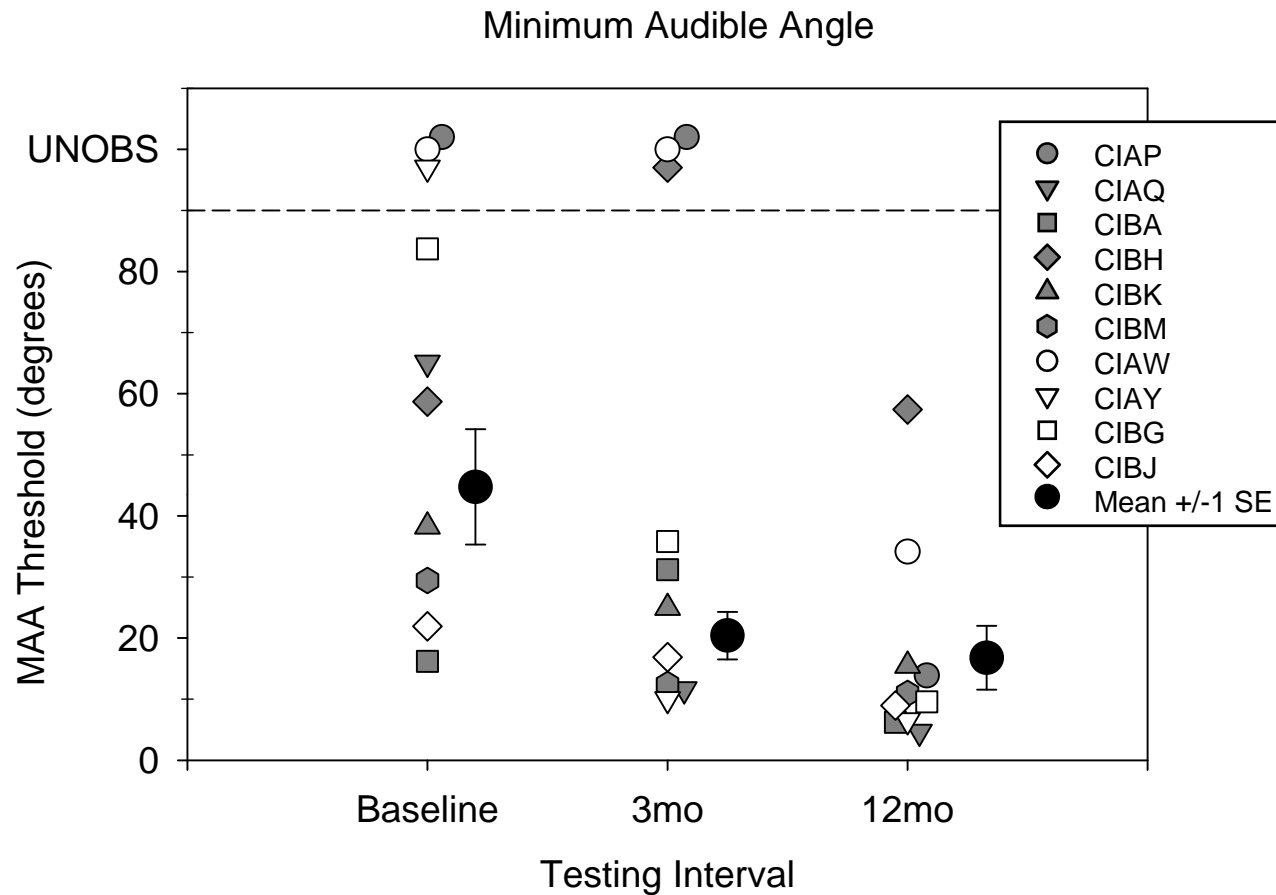


Figure 4: Results from a repeated-measures study are shown, for 10 children who were tested prior to being bilaterally activated (Baseline), then again at 3-months (3mo) and 1 year (12mo) after activation of the second cochlear implants. Testing was conducted only when both implants were activated. The legend indicates subject code; grey symbols represent children who used a hearing aid in the opposite ear. Data adapted from Godar and Litovsky (2010).

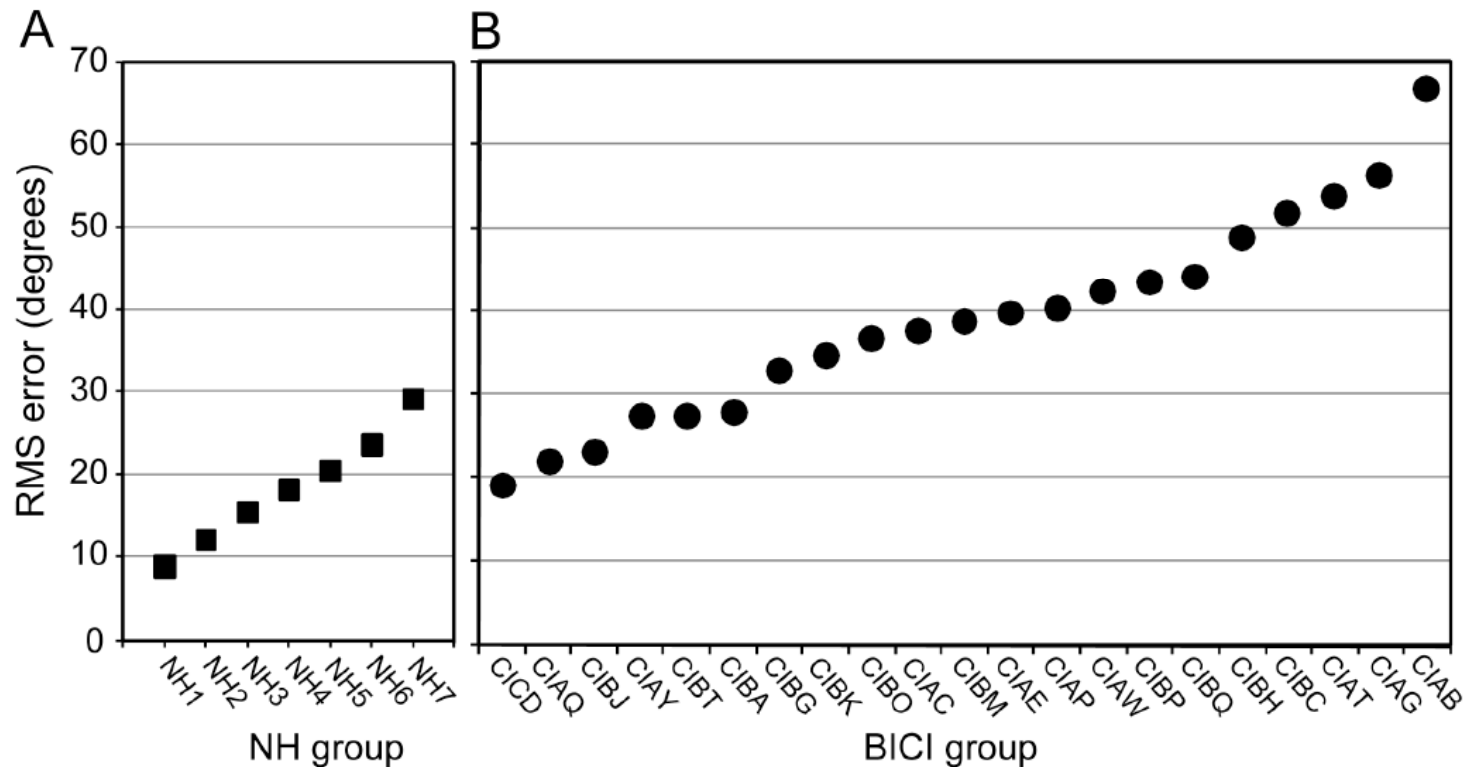


Figure 5: Results from a recent study in which children were tested on a sound localization task with a multi-loudspeaker array. Each data point represents the RMS error obtained from one child, with normal-hearing children in panel A and bilaterally implanted children in panel B (BICI group); the BICI group were tested with both CIs activated. Data adapted from Grieco-Calub and Litovsky (2010).