

# Development of auditory sensitivity in budgerigars (A)

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We examined the course of vocal development in budgerigars from hatch to 4 weeks postfledging. During this period, calls undergo dramatic changes that culminate in a stereotyped FM patterned food-begging call by the time of fledging. A shortened version of this call becomes the bird's first adult vocalization. Auditory feedback influences the development of these vocalizations, but little is known about nestling hearing. The present study tracked the development of auditory sensitivity in nestling budgerigars using the auditory brain stem response (ABR). Adult ABR audiograms are similar in shape to behavioral audiograms but are elevated by 20–30 dB. Thresholds for week-old nestlings are above 90 dB pSPL for tones and clicks, but improve markedly approaching adult levels by fledging. ABR waveform shape also changes dramatically over development. Because budgerigars use auditory feedback to learn and modify their calls throughout life, knowing how the auditory system develops and what and when the animal hears provides insights into the role that hearing plays in the development of different types of vocalizations. [Work supported by Grants DC-00046 from NIDCD to E.F.B.-P. and DC-00198 from NIH to R.J.D.]