

# HEARING PRESERVATION AFTER ACOUSTIC NEUROMA SURGERY WITH INTRAOPERATIVE DIRECT EIGHTH CRANIAL NERVE MONITORING: PART 2, A CLASSIFICATION OF RESULTS

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Since the advent of brainstem auditory evoked response audiometry and computerized tomography, small acoustic neuromas are more frequently found. Often the patient has serviceable hearing, which we could like to preserve during complete tumor removal. Since 1978, sixteen patients with acoustic neuromas have been operated upon through the retrosigmoid suboccipital approach, with the goal of hearing preservation. In 1983, we began using intraoperative direct eighth nerve monitoring, which produced a rapid assessment of cochlear nerve function during the excision of small acoustic neuromas. The tumors varied in size from intracanalicular lesions to one lesion with a 3.0cm protrusion medial to the porus acusticus. In eight of sixteen cases, intraoperative monitoring was used, and in four of the patients hearing was preserved. In eight cases, intraoperative monitoring was not used, and hearing was preserved in only 2 patients. The overall success rate-in total tumor removal with hearing preservation-was 37%. hearing was preserved in six of eight patients who had tumors which measured less than 1.5 cm. In this group of cases, two of the patients had a Class I good hearing result (PTA 0 to 30 dB and 70 to 100% discrimination), one patient had Class III non-serviceable hearing, (PTA 65 to 75 dB and 25-45% discrimination), and three patients had Class IV poor hearing, (PTA 80-100 dB and 0-20% discrimination). We found that continuous monitoring of direct eighth nerve evoked action potentials were extremely valuable and rapidly indicated reversible cochlear nerve trauma.