

Cutting the Balance Nerve

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Why is the balance (vestibular) nerve cut during surgery for acoustic neuroma? Dr. Edward Cho, a staff otolaryngologist at the House Clinic in Los Angeles, was asked this candid question during a session dealing with "Balance Problems after Acoustic Neuroma Surgery" (September 18, 2015). He was temporarily taken aback by the question and responded that the 'why' of it was really in the province of surgeons to explain. He didn't know. But he believed there was a theory that if some balance nerve fibers are left during surgery they can sometimes misfire afterwards resulting in post-op dizziness problems for the patient.

However, researchers at Leiden University Medical Center in the Netherlands, for example, have reported on how acoustic neuroma patients presenting with disabling vertigo have had their quality of life significantly improved by translabyrinthine tumor removal; and a study at the International Neuroscience Institute in Hanover, Germany, concluded that retrosigmoid surgery was safe and very effective in providing relief for patients with disabling vestibular dysfunction, including vertigo.¹

Cutting the vestibular nerve is in fact routine in acoustic neuroma surgery regardless of the presenting symptoms of the patient or the surgical approach employed. "When an acoustic neuroma is removed by microsurgery, the balance fibers in which the tumor is growing are removed along with the tumor."² They have been compromised by the tumor and are for the most part either non-functioning or close to it. Cutting the nerve avoids any subsequent intermittent malfunctioning of damaged fibers. Of course, the result of cutting is an abrupt loss of balance input to the brain from the affected side. However, it's done in the knowledge that our amazing brain will soon be able to compensate for the loss. Some visual vestibular balance therapy will help.

Yes, things are different with radiation treatment. There is of course no cutting. Change in balance function does not occur as quickly as with microsurgery. "With radiation, change occurs more slowly, often with some persistence of balance function on the treated side."³ There is a potential for un- steadiness over a longer period of time.

¹ See W.P.Godefroy et al, "Translabyrinthine Surgery for Disabling Vertigo in Vestibular Schwannoma Patients," *Clin Otolaryngol*, vol 32 (June 2007); and M.Samii et al, "Efficacy of Microsurgical Tumor Removal for Treatment of Patients with Intra-cunicular Vestibular Schwannoma Presenting with Disabling Vestibular Symptoms," *Jour Neurosurg*, vol 17 (June 2016).

² *Improving Balance Following Treatment for Acoustic Neuroma* (ANA Booklet, April 2004), p.5.

³ *Ibid.*, p.7.