

Reflections on the Current State of Acoustic Neuroma Care

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The state of advanced medical care, both in the United States and abroad, has radically changed over the last few years. This has created both opportunity and challenges for providers and patients alike. In times like these, it's important to redouble our focus on positive advances and victories, while acknowledging the journey it took to get here. With this in mind, I write this article as a meditation on the current state of the treatment of acoustic neuromas and other skull base tumors.

Over the past decade, we've significantly improved our understanding of these tumors, their clinical behaviors, and the impact they have on our patients' quality of life and wellbeing. Thanks to exceptional developments in neuroimaging and the widespread availability of MRI, specialists are detecting acoustic neuromas at ever smaller sizes. The earlier we diagnose these tumors, the more options we have for managing our patients. Patients are afforded more choices in their care than ever before, and the treatment of acoustic neuromas has evolved into a great example of patient-centered care delivery. Many tumors can now be observed over time with periodic MRI scans. The use of radiation has been applied more effectively and appropriately. Surgery, when necessary, has evolved tremendously to employ less-invasive approaches, state-of-the-art microimaging, and advanced microsurgical techniques. Because of this, patients with acoustic neuromas are less likely to experience complications and may enjoy greater functional preservation than ever before.

Further, the knowledge we've gained of how these tumors impact our patients' quality of life and lifestyle choices has directly informed how we counsel patients. The treatment decision-making process now heavily weighs variables such as employment history, financial implications, household duties, family obligations, personal hobbies, and functional goals. Considerable attention is also given toward

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quality-of-life aspects, including social hearing ability and functional vestibular outcomes, with an emphasis on care plans that maintain active and productive lifestyles and rich social interactions.

Looking to the future, there are also a number of exciting advances coming to our field. Numerous institutions, including our acoustic neuroma program here at Barrow Neurological Institute, are beginning to explore research in epigenetics, proteomics, molecular biology, and cytogenetics. This research could open the door to more advanced care delivery, new treatment modalities, safer surgery, and better decision making. Additionally, advances are being made in neuroimaging that may further predict the behavior of tumors over a patient's lifetime, and perhaps even predict functional outcomes, including lifelong hearing and balance abilities. Finally, developments in implantable hearing technology and vestibular rehabilitation programs are leading to an ever-improving opportunity for patients to reclaim normal function after treatment.

When it comes to acoustic neuromas and other skull base tumors, the future appears brighter than ever before. We at Barrow Neurological Institute are proud to be part of the effort to evolve tumor treatment and patient care delivery paradigms, and we look forward to journeying alongside our patients toward a bright horizon. ♥