

## **Acoustic Neuroma**

An Acoustic Neuroma is a benign tumor arising from the sheath or insulating cells that surround nerves traveling from the brainstem into the inner ear. The eighth cranial nerve, or acoustic nerve, is most frequently affected. This tumor is quite slow-growing in most instances. Because of its position, it has the potential to cause serious problems including hearing loss, balance difficulties, and facial nerve paralysis.

Continued unchecked growth can in rare circumstances lead to stroke or even death.

Symptomatically, these tumors present most commonly with unilateral hearing loss, tinnitus (ringing), and occasional imbalance. True whirling vertigo is rare. As a tumor grows the symptoms may change as other structures are affected. Facial weakness or paralysis though rare may develop.

Physical examination can often be devoid of anything but subtle findings and often the laboratory examination is quite important. Among these studies are audiological testing, Facial nerve testing, and Vestibular (balance) testing. These tests are part of the diagnostic armamentarium and are also used to help in decision making in regard to treatment options. All these tests are available in our center. Scanning the area confirms the diagnosis. Magnetic resonance Imaging is the gold standard for tumor diagnosis and evaluation.

Therapeutic interventions are chosen after consideration of the above test results, the medical condition and age of the patient and the patient's informed wishes. This lesion does afford the patient often a significant opportunity to actively participate in the decision as to the best type of treatment for his /her tumor. Surgical intervention is most

often the method of choice for this tumor. Three possible approaches are utilized to resect an acoustic neuroma. The particular approach is chosen based upon factors revolving around size of tumor, adjacent involvement of the tumor, w of hearing loss, as well as those factors noted above. The goals of surgery include: 1. removal of all or nearly all the tumor, 2. preservation of the facial nerve(responsible for facial motion,) 3. if possible, consideration of preservation of the residual hearing when such hearing is useable preoperatively. The approaches include the middle fossa approach, the translabyrinthine approach, and the retrosigmoid or suboccipital approach. Occasionally these approaches may be used together or tumor may be removed in stages. Each approach has advantages and limitations which will be discussed in the office. Observation or non-surgical care is reserved for patients who are significantly at medical risk for this type of major surgical procedure. Mention of radiation therapy, known as Gamma knife treatment, is important as it is discussed with patients as they consider their options. This form of therapy is not curative but is intended to slow the growth or occasionally shrink the lesion. It is attendant by the same risks as surgery in regard to hearing preservation and facial nerve injury though those may be more delayed in onset. Its long term efficacy in this country is still not determined at this time.

The diagnosis of acoustic neuroma is a daunting one for the patient and family but with appropriate information, one can arrive at a good decision regarding the care for this condition.