



BRIGHAM AND
WOMEN'S HOSPITAL

OTOLARYNGOLOGY ADVANCES

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Multidisciplinary and Interdisciplinary Team Provides Innovative Care for Acoustic Neuromas

A multidisciplinary and interdisciplinary team at Brigham and Women's Hospital (BWH) is using traditional and innovative techniques that are coupled with radiation therapy to treat patients with acoustic neuromas.

Vestibular schwannomas, also called acoustic neuromas are being detected earlier due to increased detection via high-resolution imaging including MRI. Aside from known genetic factors, the cause of these neuromas is not entirely known.

"Acoustic tumors develop as a result of the overproduction of Schwann cells. Although they are not cancerous, they can do tremendous damage," said C. Eduardo Corrales, MD, an otolaryngologist that specializes in otology, neurotology and skull base surgery. "As the tumor grows, it presses against the hearing and balance nerves and can cause unilateral or asymmetric hearing loss, tinnitus and dizziness/loss of balance. If the tumor is very large, the patient may develop facial weakness as well. These tumors become life-threatening when they exert pressure on the brainstem and the cerebellum which presents surgical challenges."

Vestibular Schwannoma (acoustic neuroma) Treatment

At the comprehensive Skull Base Program at Brigham and Women's Hospital, Dr. Corrales works in close collaboration with neurosurgeon Ian F. Dunn, MD, to treat both unilateral acoustic neuromas, the most common type of acoustic neuroma affecting adults between the ages of 30 and 60, and bilateral acoustic neuromas which are the re-



Otolaryngologist C. Eduardo Corrales, MD, and neurosurgeon Ian F. Dunn, MD, collaborate to treat both unilateral acoustic neuromas and bilateral acoustic neuromas.

sult of neurofibromatosis-2 (NF2), a genetic abnormality that can develop at any age.

The Skull Base Program is a multidisciplinary program which combines the talents of surgeons in otolaryngology (neurotology, head and neck oncology) along with neurosurgery (neuro-oncology) together with neurophysiology professionals and radiation oncologists to offer comprehensive management of these complex tumors.

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According to Dr. Corrales, not all vestibular schwannomas require intervention. Some are slow growing and pose only minor risk of serious problems. In these cases, the tumor can be monitored by serial imaging with MRI.

Modern microsurgical skull base techniques have brought improved results with patients who present with large tumors, or tumors with disabling symptoms. These techniques have allowed better tumor control, excellent patient survival, and improved quality of life for patients with acoustic neuromas. The main treatment for these tumors is microsurgery which involves removal of a segment of bone in the skull to access the tumor, followed by meticulous dissection to peel the tumor away from critical nerves and brain structures. Microsurgery for these tumors is a technologically-intensive endeavor requiring the use of high-power fiber-optic illumination, intra-operative navigation, and high-speed equipment coupled with a state-of-the-art neurophysiology monitoring console."

The AMIGO Suite

The Advanced Multimodality Image Guided Operating (AMIGO) Suite at BWH is a state-of-the-art medical and surgical research environment that houses a complete array of advanced imaging equipment and interventional surgical systems.

Employed for a variety of skull base surgeries, the AMIGO Suite was designed so that multidisciplinary teams of specialists could offer precisely guide treatment – before, during, and after surgery – without the patient or medical team ever leaving the operating room.

Dr. Corrales said, "The AMIGO suite encourages collaboration among multidisciplinary teams of surgeons, interventional ra-



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diologists, imaging physicists, computer scientists, biomedical engineers, nurses, and technologists with the goal of developing and delivering the safest and most-effective state-of-the-art therapies."



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Access to our Otolaryngology Services

At Brigham and Women's Hospital, our specialists are available for timely consultations and will work with you to develop treatment plans for your patients. Our Physician Liaison Ellen Steward can provide direct assistance with patient referrals and consultations. Ellen can be reached at (617) 582-4733 or esteward@partners.org.



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