

BRIZBRAIN AND SPINE ACOUSTIC NEUROMA MANAGEMENT

PHILOSOPHY The neurosurgeons that comprise BrizBrain and Spine pursue a patient quality of life focused approach to the care of patients with acoustic neuromas. The approach focuses on achieving the best quality of life outcomes for patients. Commencing with the initial consultation, patients are educated in the natural history of acoustic neuromas and are given information pertaining to the management options of wait and watch with serial scans, radiotherapy or surgery. Services of radiotherapists, audiologists, ENT surgeons, balance physiotherapists and other rehabilitation personnel are recruited to attempt to achieve the desire of allowing each patient to make decisions that suit the individual patient's needs and achieve the best outcomes in terms of hearing, balance, cognition, pain and facial nerve. This web site links to the American Acoustic Neuroma Website for educational purposes. It contains an audit of the surgical outcomes of patients treated by Brizbrain and Spine.

**AN OVERVIEW OF THE NATURAL HISTORY OF ACOUSTIC
NEUROMA AND MANAGEMENT OPTIONS IS BEST SEEN AT**
American Acoustic Neuroma website. www.anausa.org

BRIZBRAIN AND SPINE SURGICAL AUDIT OF ACOUSTIC NEUROMA PATIENTS TREATED SURGICALLY

METHOD AND PATIENTS

The data presented here is an audit of the last 73 consecutive acoustic neuroma patients treated surgically by the neurosurgeons at BrizBrain and Spine. All patients have more than one year post operative follow-up. A surgeon who is not a member of BrizBrain and Spine performed the audit.

DEMOGRAPHICS AND OUTCOMES

There were 35 male and 38 female patients. The acoustic neuromas were on the left side in 37 patients and on the right side in 36 patients.

The maximal dimension of the tumor had a range from six to fifty five millimetres with a mean of twenty-four millimetres. The cerebello-pontine component of the tumor varied in size from zero to fifty-two millimetres with a mean of twenty millimetres.

A sub-occipital transmeatal approach was utilised in ten patients and an extended translabyrinthine approach in sixty-three patients.

The length of stay varied from five to forty six days with a mean of eight days.

The tumor was totally removed in forty-one patients, a microscopic scrap of tumor was left outside the porus in twenty-seven patients and a small amount of tumor was left in five patients. Tumor was left to preserve facial nerve function or to prevent injury to the brain stem.

All patients have had follow up MRI scans. Eight patients have residual tumor on MRI scan which has not grown, 65 have no identifiable tumor

on MRI scan. No patient has had further treatment for his or her acoustic or it's residual.

For all patients the facial nerve function at last follow up utilising the House-Brackmann grading scale was House-Brackmann Grade 1 for fifty-five patients, House-Brackmann Grade 2 for ten patients, House-Brackmann Grade 3 for seven patients and House-Brackmann Grade 4 for one patient. Eighty-nine percent of patients had a House-Brackmann Grade 1 or 2 facial nerve function at last follow up. Anatomical integrity of the nerve was maintained in seventy-one patients while two patients had the facial nerve divided, one of these two patients had an immediate facial nerve to facial nerve graft at the time of the original surgery, and one patient had a delayed seven nerve to twelve graft. Both patients' have had their House-Brackmann score recorded here on their post graft status, last follow up assessment. House-Brackmann grade at last follow up versus maximal tumor size are depicted in appendix 1.

There were a number of complications of the seventy-three operations.

Three of the sixty-three patients who underwent a translabyrinthine approach complained of long-term headaches. Two of the ten patients who had a suboccipital operation complained of long-term headaches.

Nine of the seventy-three patients complained of long-term significant imbalance that was attributed to their treatment.

Three of the seventy-three patients had a cerebrospinal leak. One of the three required an operative procedure to control the leak. Two other patients had an early return to theatre, one for a contralateral sub-dural hematoma and one for hydrocephalus.

Three patients had new long-term facial sensation changes. Four of the seventy-three patients had MRI changes suggestive of ischaemic events. No patient had long term long tract motor deficits. One had long-term sensory changes.

Five patients had a temporary tarsorrhaphy performed, and/or gold weights inserted into the upper lid to protect the cornea, one patient had a long-term tarsorrhaphy

There were no deaths, no episodes of meningitis and no long term lower cranial nerve palsies.

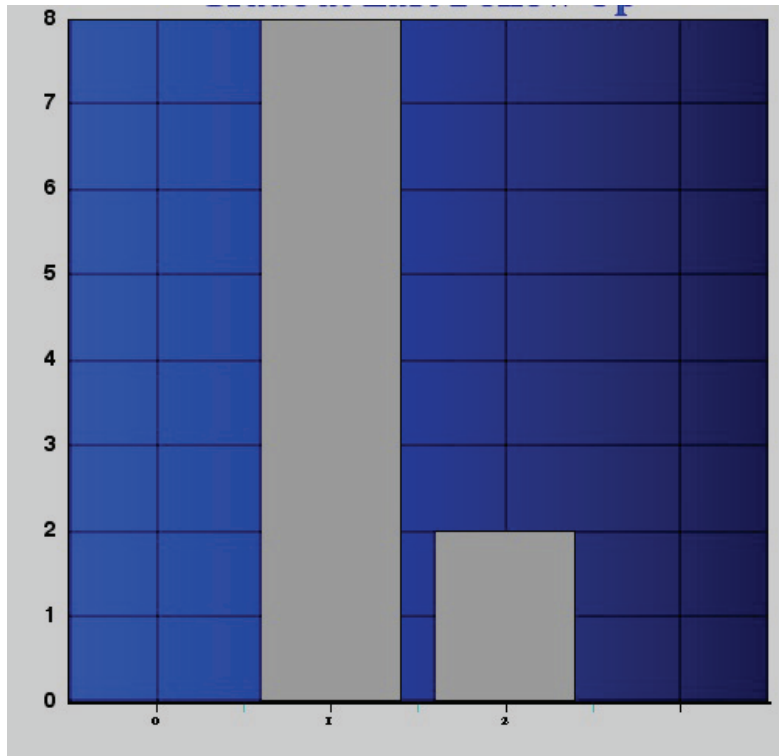
APPENDIX 1

	HB grade 1	HB grade 2	HB grade 3	HB grade 4	HB grade 5	HB grade 6	ALL
<10mm	8(80%)	2(20%)	0	0	0	0	10(14%)
11-20mm	17(74%)	4(17%)	2(9%)	0	0	0	23(31%)
21-30mm	21(81%)	3(11%)	2(8%)	0	0	0	26(36%)
31-40mm	8(73%)	0	2(18%)	1(9%)	0	0	11(15%)
>40mm	1(34%)	1(33%)	1(33%)	0	0	0	3(4%)
ALL	55(75%)	10(14%)	7(10%)	1(1%)	0	0	73

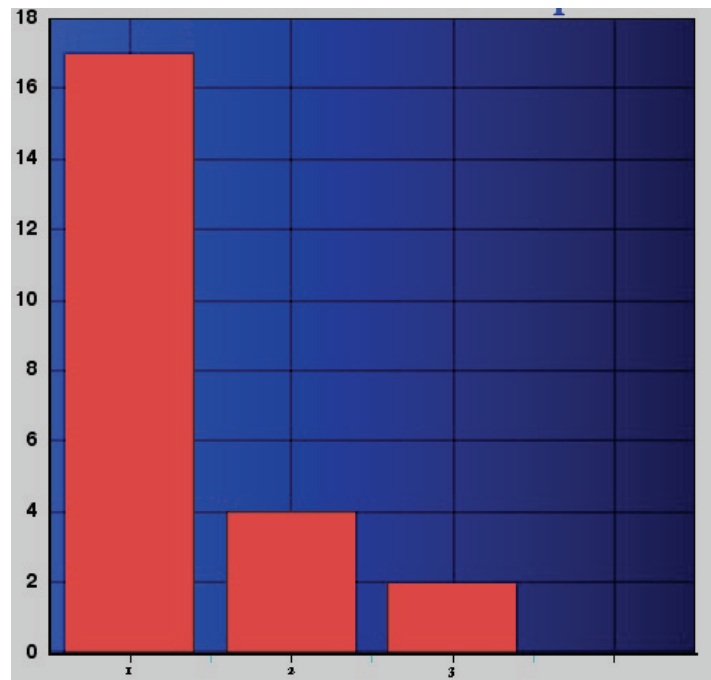
FACIAL NERVE FUNCTION (HOUSE-BRACKMANN GRADE AT LAST FOLLOW UP)

Vs.

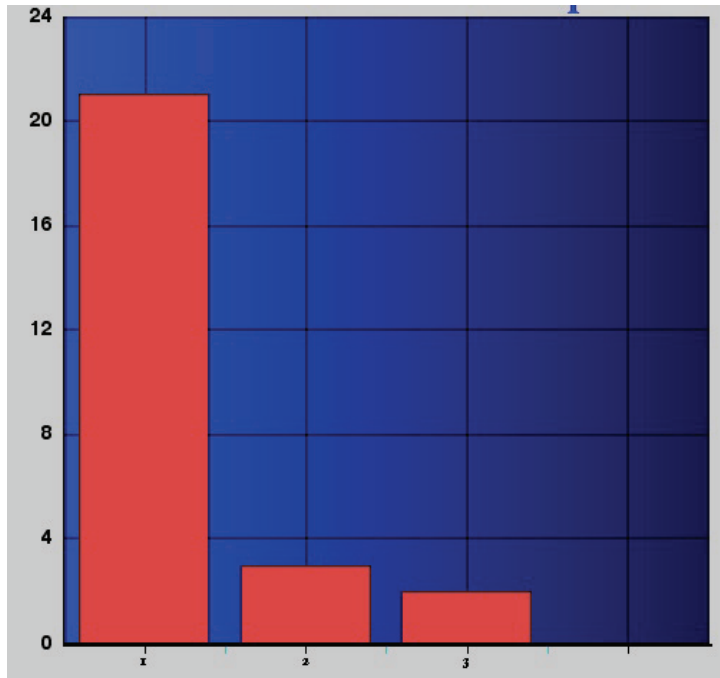
MAXIMAL TUMOR SIZE (MAXIMAL RADIOLOGICAL TUMOR DIMENSION IN MILLIMETRES)



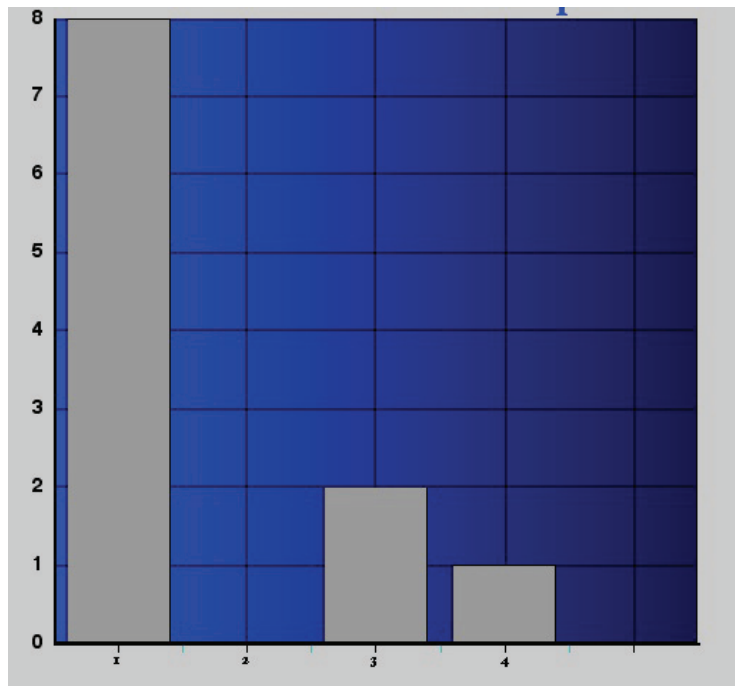
HOUSE BRACKMANN FACIAL NERVE FUNCTION AT LAST FOLLOW UP
 TUMOR MAXIMAL DIMENSION LESS THAN 10 MM
 (X-axis is HOUSE-BRACKMANN Grade, Y-axis is # of patients)



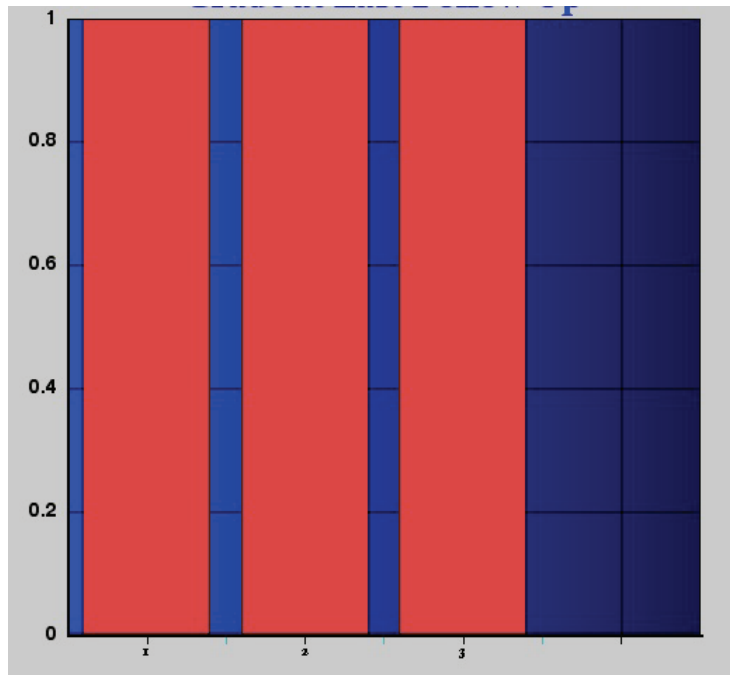
HOUSE BRACKMANN FACIAL NERVE FUNCTION AT LAST FOLLOW UP
 TUMOR MAXIMAL DIMENSION 11MM TO 20MM
 (X-axis is HOUSE-BRACKMANN Grade, Y-axis is # of patients)



HOUSE BRACKMANN FACIAL NERVE FUNCTION AT LAST FOLLOW UP
 TUMOR MAXIMAL DIMENSION 21MM TO 30MM
 (X-axis is HOUSE-BRACKMANN Grade, Y-axis is # of patients)



HOUSE BRACKMANN FACIAL NERVE FUNCTION AT LAST FOLLOW UP
 TUMOR MAXIMAL DIMENSION 31MM TO 40MM
 (X-axis is HOUSE-BRACKMANN Grade, Y-axis is # of patients)



HOUSE BRACKMANN FACIAL NERVE FUNCTION AT LAST FOLLOW UP
TUMOR MAXIMAL DIMENSION GREATER THAN 40 MM
(X-axis is HOUSE-BRACKMANN Grade, Y-axis is # of patients)