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1: [Int J Radiat Oncol Biol Phys.](#) 2009 Jan 1;73(1):208-13. Epub 2008 Aug 5.



### **Clinical experience with radiation therapy in the management of neurofibromatosis-associated central nervous system tumors.**

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**PURPOSE:** Patients with neurofibromatosis (NF) develop tumors of the central nervous system (CNS). Radiation therapy (RT) is used to treat these lesions. To better define the efficacy of RT in these patients, we reviewed our 20-year experience. **METHODS AND MATERIALS:** Eighteen patients with NF with CNS tumors were treated from 1986 to 2007. Median follow-up was 48 months. Progression was defined as growth or recurrence of an irradiated tumor on serial imaging. Progression-free survival (PFS) was measured from the date of RT completion to the date of last follow-up imaging study. Actuarial rates of overall survival (OS) and PFS were calculated according to the Kaplan-Meier method. **RESULTS:** Eighty-two tumors in 18 patients were irradiated, with an average of five tumors/patient. Median age at treatment was 25 years (range, 4.3-64 years). Tumor types included acoustic neuroma (16%), ependymoma (6%), low-grade glioma (11%), meningioma (60%), and schwannoma/neurofibroma (7%). The most common indication for treatment was growth on serial imaging. Most patients (67%) received stereotactic radiosurgery (median dose, 1,200 cGy; range, 1,000-2,400 cGy). The OS rate at 5 years was 94%. Five-year PFS rates were 75% (acoustic neuroma), 100% (ependymoma), 75% (low-grade glioma), 86% (meningioma), and 100% (schwannoma/neurofibroma). Thirteen acoustic neuromas had a local control rate of 94% with a 50% hearing preservation rate. **CONCLUSIONS:** RT provided local control, OS, and PFS rates similar to or better than published data for tumors in non-NF patients. Radiation therapy should be considered in NF patients with imaging progression of CNS tumors.

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