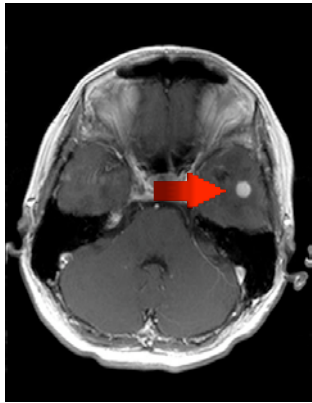
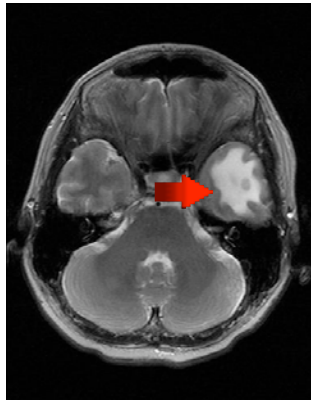


# CASE STUDY

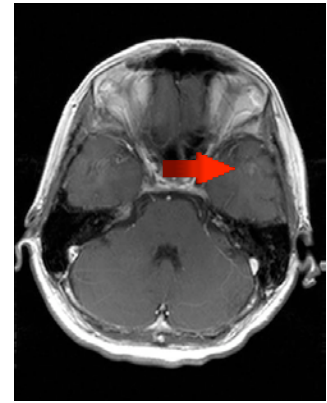
## Treatment of Brain Metastasis from Breast Cancer



June 2008 MRI pre-CK  
1 of the 3 lesions shown



Pre-CK MRI axial view exposes  
edema around tumor



2 months after CyberKnife®  
MRI axial view – no edema & no lesions

### Patient History

In September of 2005 a 59-year-old woman underwent a mastectomy of the right breast for stage I breast carcinoma. She underwent adjuvant chemotherapy (AC) and placed on Arimidex. In July 2007, she was found to have a right anterior chest wall recurrence. She underwent chemotherapy and radiation therapy to this area. She presented with headaches in July 2008 and was found to have three brain metastases. She was given the option of whole brain radiation therapy (2-4 weeks of daily radiation) or one stereotactic radiosurgery treatment with CyberKnife for each lesion. She chose CyberKnife.

### CyberKnife® Advantage

Whole brain radiation therapy (WBRT) is given over several weeks. Stereotactic radiosurgery with CyberKnife involves one high dose treatment per lesion. Large areas of healthy brain tissue are affected during whole brain radiation therapy, and the side effects tend to include chronic fatigue, gait disturbance, and memory loss. There are virtually no side effects with CyberKnife, and because of its capacity to deliver a high dose with precision and with tracking throughout treatment, the CyberKnife treatment is capable of completely eradicating the lesions. There is no absolute limit to the number of lesions that can be treated with CyberKnife. The main limiting factor is the extent and control of the patient's systemic disease.

### Treatment

This patient was brought into the treatment center for an Aquaplast mask fitting (immobilization device). She was then taken to the hospital's Radiology Department for a CT and an MRI in the custom-fitted mask for treatment planning. The treatment plan was developed and a peripheral dose of 2000cGy was prescribed to approximately the 50% isodose line. Each lesion received a single fraction of 2000cGy and a maximum dose of 4000cGy. The patient tolerated the treatments well and resumed normal activities following her therapy.

### Outcome & Follow-Up

At a two-month follow up appointment with her neurosurgeon, her MRI revealed no evidence of disease. At eight months post treatment, the MRI remains clear with no evidence of recurrent disease.

### CyberKnife Team

David Caletri, M.D., radiation oncologist  
Thomas Bertuccini, M.D., neurosurgeon  
Meyer Heiman, M.S., medical physicist

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