

## Recurrent Metastatic Small Cell Lung Carcinoma

by > David Grisell, DO

### Clinical problem

This 68-year-old man was diagnosed with limited stage small cell lung cancer in August 2002. He was treated with chemotherapy and radiotherapy to the chest and whole brain. A complete remission was achieved. In March 2004, he suffered a grand mal seizure and MR showed a single brain metastasis. There was no evidence of relapse outside of the brain.

### Treatment options

Historically, patients who develop brain metastases from lung carcinoma often die of neurologic complications. Patients with brain metastases from small cell lung carcinoma can present special treatment challenges since many of these patients have previously received whole brain radiotherapy with reduced doses can provide short-term palliation, but permanent local control requires more aggressive local treatment with either conventional surgical excision or stereotactic radiosurgery. This patient was treated with stereotactic radiosurgery using a single dose of 16.00 Gy, which he tolerated without side effects or complications. Follow-up MR 3 months later showed a 50% decrease in tumor size.

### Comments

Radiosurgery for brain metastases from lung cancer has a local control rate of approximately 80%. Local control of brain metastases alters the natural history of metastatic lung carcinoma, extending their survival and improving their neurologic quality of life.

### References

1. Serizawa T, Ono J, Ichi T, et al. Gamma knife radiosurgery for metastatic brain tumors from lung cancer: a comparison between small cell and non-small cell carcinoma. **J Neurosurg** 97(5 Suppl):484-8, 2002
2. Breneman JC, Warnick RE, Albright RE Jr, Kukiatinant N, Shaw J, Armin D, Tew J Jr. Stereotactic radiosurgery for the treatment of brain metastases. Results of a single institution series. **Cancer** 79(3):551-7, 1997.

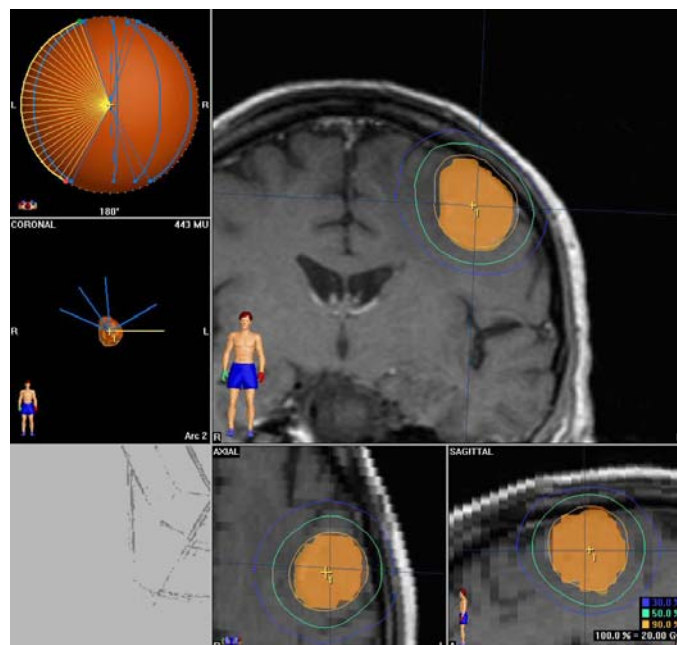


Figure 1. The recurrent tumor is targeted for radiosurgery treatment using dynamic conformal arc technology. The dose of radiation drops off rapidly at approximately 10% per millimeter away from the target volume.

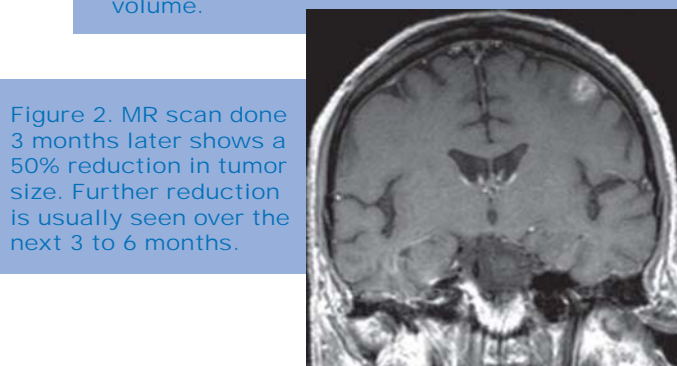


Figure 2. MR scan done 3 months later shows a 50% reduction in tumor size. Further reduction is usually seen over the next 3 to 6 months.

### How to refer

Because of the specific nature and complexity of the services we provide, patients must have a consultation with one of our physicians prior to being referred to the center. To schedule an appointment with one of our physicians, please contact Precision Radiotherapy at 513-475-7777. Additional information is available on the web at [www.precisionradiotherapy.com](http://www.precisionradiotherapy.com).



## The Precision Radiotherapy Center

The Precision Radiotherapy Center provides an option for patients with tumors or other neurological disorders. Developed by the Mayfield Clinic and University Radiology Associates, two nationally recognized neuroscience programs affiliated with the University of Cincinnati College of Medicine, Precision Radiotherapy is the region's first center to offer high-precision radiotherapy/radiosurgery for tumors and other abnormalities both inside and outside the brain. We can target benign and malignant tumors of the brain, head and neck, as well as tumors elsewhere in the body, such as the prostate, spine, liver and lung. Patients also come to us for treatment of vascular malformations, trigeminal neuralgia, acoustic neuromas and pituitary adenomas.

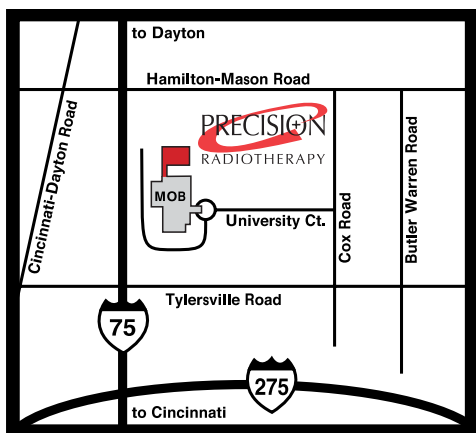
## Hours of Operation

Monday-Friday, 8:00 a.m. - 5:00 p.m.

## Directions

The Precision Radiotherapy Center is conveniently located on I-75, just north of Cincinnati at University Pointe, 7710 University Court, in West Chester, Ohio. For detailed directions, visit our website:

[www.precisionradiotherapy.com](http://www.precisionradiotherapy.com)



## The Precision Radiotherapy Team

Precision Radiotherapy is one of the most progressive treatment centers in the Midwest, featuring a team of internationally recognized specialists and highly skilled staff:

### Radiation Oncology

Radiation oncologists of University Radiology Associates are board-certified physicians with specialized training in treating tumors and other lesions with various forms of radiation.

William Barrett, MD  
John Breneman, MD  
David Grisell, DO  
Kevin Redmond, MD

### Neurosurgery

Neurosurgeons of the Mayfield Clinic provide initial patient evaluation, treatment planning and follow-up for all neurosurgical patients treated.

George Mandybur, MD  
William Tobler, MD  
John M. Tew, Jr., MD  
Ronald Warnick, MD

### Radiology

Radiologists from University Radiology Associates work with the team to precisely identify the target area for radiation treatment.

Robert Lukin, MD  
Mary Gaskill-Shiple, MD  
Gavin Udstuen, MD

### Radiation Therapy

Radiation therapists of Precision Radiotherapy are state-licensed, highly trained health professionals who deliver radiation treatment according to specific protocols. They are registered by the American Registry of Radiologic Technologists (ARRT).

### Medical Physics

Medical physicists of Precision Radiotherapy are health professionals with special training in radiation physics, are responsible for maintaining and calibrating the equipment used to deliver radiation.