

**WHY NOVALIS AND MARY BIRD PERKINS?**

Novalis, the most sophisticated radiosurgery system available today, illustrates Mary Bird Perkins Cancer Center's commitment to provide the latest technology for radiation therapy. The Center was selected as a beta test site and research partner by BrainLAB, the manufacturer of Novalis. BrainLAB specializes in the development, manufacture and marketing of medical technology for radiosurgery / radiotherapy, orthopedics, neurosurgery and other specialties. The company is among the market leaders in image-guided surgery, with 750 navigation systems installed around the globe.

Mary Bird Perkins Cancer Center's partnership with Louisiana State University's Department of Physics and Astronomy will provide the physics support the Novalis system requires and open new vistas for research.

Mary Bird Perkins Cancer Center's comprehensive radiation therapy services include multiple modalities of treatment including both external and internal methods of treating cancer and other therapies for non-cancerous conditions.

The Center, a nonprofit organization, provides treatment and follow up care to thousands of patients from around the region each year through its facilities in Baton Rouge, Hammond and Covington, Louisiana. For more information, visit [www.marybird.org](http://www.marybird.org).

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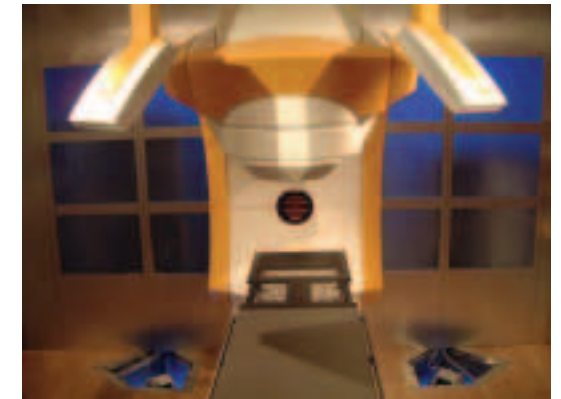
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PROUDLY OFFERS PATIENTS  
BRAINLAB'S  
NOVALIS® SHAPED BEAM  
RADIOSURGERY  
AND RADIOTHERAPY





#### WHAT IS NOVALIS?

Novalis is a non-invasive radiation treatment machine designed to treat selected tumors and non-malignant conditions.

Beginning in spring 2004, Mary Bird Perkins Cancer Center will be the only medical

facility in Louisiana and one of just 34 in the country to offer Novalis Shaped Beam Radiosurgery (single radiation treatment) and Radiotherapy (multiple radiation treatments). This technology is the first to incorporate both precise shaping to conform to the target and image guidance using x-rays and infrared localization.

#### WHAT CANCERS AND ILLNESSES CAN NOVALIS TREAT?

Novalis is an advanced radiation treatment machine specifically designed to treat relatively small targets in the brain or in other areas. It is especially useful in areas that require pinpoint precision to focus radiation near critical normal structures. Because of the shaping to conform to the target and image guidance, some conditions can be treated more effectively and with fewer side effects than other radiation technologies.

#### DEPENDING ON YOUR PARTICULAR CASE, NOVALIS MAY BE THE RIGHT TREATMENT OPTION FOR YOU:

- Cancers or benign lesions that have started in the brain or spread to the brain
- Arteriovenous malformations (a type of vascular disorder) of the brain
- Functional brain disorders (e.g. Trigeminal Neuralgia/Tic Douloureux)
- Relatively small tumors in other areas of the body such as the head and neck area, prostate, liver, spine or certain other areas near bony landmarks or where metallic markers can be surgically implanted.
- Tumors located so close to sensitive normal structures that it would be dangerous to treat the tumor with standard radiation techniques (tumors very near the spinal cord). This is exceptionally beneficial in situations where the region has been previously irradiated.



#### HOW DOES NOVALIS WORK?

##### *Shaping to conform to the target:*

Novalis will precisely match the contour of targets using micro-multileaf collimation (MMLC) to shape the radiation beams. During treatment, Novalis steadily moves around the patient's body so that the radiation penetrates the target from different angles. Computer software calculates the dose from each beam that will best treat the target. While the target receives the full dose, the surrounding healthy tissue only receives a small percentage of the radiation dose.



#### *Image Guidance:*

Novalis combines multiple advanced technologies for image guidance. Patients are positioned using x-rays and infrared three-dimensional real time imaging. The x-ray system can use both bony landmarks and implanted metallic markers. Novalis' computer then analyzes these images to move the patient to the precisely intended position. This is the only machine in the world to have this x-ray and infrared localization positioning system. For targets in the brain, a rigid metallic frame is often anchored to the head helping to eliminate any patient movement. In the future, image guidance will be used to evaluate the movement of the lung or liver with respiration, and trigger the radiation beam based on the movement of the tumor.



*Mary Bird Perkins Cancer Center is committed to providing the latest technology for radiation therapy.*