



Proton Therapy Center



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**Indiana University and ProNova Solutions Collaborate on Proton  
Therapy Technology**

***Research Agreements Benefit Both Entities***

**BLOOMINGTON, Ind.** – A series of collaborative research agreements between Indiana University Cyclotron Operations, Indiana University Health Proton Therapy Center and ProNova Solutions aim to develop advanced proton therapy technologies, including a new pencil beam scanning nozzle.

“This partnership with ProNova allows us to leverage our technology and expertise to further advance proton therapy for patients,” said Dr. Peter Johnstone, president and chief executive officer of the IU Health Proton Therapy Center, director of IUCO, and chair and William A. Mitchell Professor of Radiation Oncology at the IU School of Medicine. “With our significant engineering and technical talent at IUCO and our world class physics and clinical proton programs at the IU Health Proton Therapy Center – all under the same roof – we are uniquely positioned to collaborate with ProNova on this initiative.”

The collaborations include the use of a treatment room at IU Health Proton Therapy Center by ProNova for research and development and access to intellectual property and cyclotron operations at the Bloomington facility. The end result will leave the proton center outfitted with modernized software, control electronics, and advanced proton scanning capabilities and ProNova will benefit by having the research space to create components of the next-generation technology that it will initially install in the Provision Center for Proton Therapy in Knoxville, Tenn.

ProNova intends to market its new technology globally as part of their new SC360 superconducting compact proton therapy system. The IU Health Proton Therapy Center will further develop their treatment room, including the ProNova technology, and apply for Food and Drug Administration clearance to treat patients with pencil beam scanning. Pencil beam scanning is currently available in just a few proton centers worldwide. The ProNova design will provide both pencil beam scanning and uniform beam scanning. This unique combination of beam delivery techniques will improve workflow, the precision of treatment, and overall clinical flexibility.

“This collaboration is key to our development of the SC360 proton therapy solution, one of the most advanced and affordable proton therapy systems in the world,” said Joe Matteo, division president of ProNova Solutions, LLC - R&D and manufacturing and vice president of research and development for the Provision Center for Proton Therapy.

Pencil beam scanning for proton therapy delivers a single, narrow proton beam (about 5 millimeters in diameter) that is positioned accurately inside the tumor, depositing a precise radiation dose to a three-dimensional target area. ProNova’s scanning nozzle simplifies the delivery process with numerous advanced features and alleviates the requirement for bulky compensators and collimators. This precision is particularly advantageous for patients suffering head and neck cancers, brain cancer and pediatric patients.

ProNova Solutions currently employs 50 people with 10 full- and part-time employees and consultants in Bloomington and 40 in Knoxville.

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#### **About Indiana University Health Proton Therapy Center**

The [Indiana University Health Proton Therapy Center](#) is a state-of-the-art center offering a highly precise method of treating tumors. Since February 2004, the medical team has treated adults and children with both benign and cancerous tumors of the head, neck, spine, or prostate. It is one of only 11 proton centers currently operating in the United States and is the first facility in the Midwest. The IU Health Proton Therapy Center’s pediatric program is affiliated with Riley Hospital for Children at Indiana University Health, which is ranked among the top children’s hospitals in the nation by U.S. News & World Report’s America’s Best Children’s Hospitals.

#### **About ProNova Solutions**

[ProNova Solutions](#) is committed to making proton therapy accessible to a greater number of patients and physicians worldwide. Founded by the leaders of CTI Molecular Imaging, ProNova’s team brought positron emission tomography (PET) technology out of the laboratory and made it a clinical reality for millions of cancer patients. ProNova is partnered with some of the leading healthcare and proton therapy providers and developers in the country, including Provision Center for Proton Therapy, ProCure Treatment Centers, and Indiana University Health. With expectations to grow to more than 100 people in the next 12 months, ProNova anticipates to employ 500 highly-skilled people by 2018 in the Knoxville area.

#### **About Indiana University Cyclotron Operations**

[Indiana University Cyclotron Operations](#) is the servicing and engineering provider for the treatment systems used by the IU Health Proton Therapy. Physicists, engineers and technicians from the former IU Cyclotron Facility, now Cyclotron Operations, designed, built and obtained FDA 510 (k) clearance for the IU Health Proton Therapy Center’s treatment systems. IU pioneered the use of robotic positioning in the U.S. and remains the only treatment system using a combined function scanning magnet. When the Proton Center began treating patients in 2004, it was one of only three located in the U.S. and the first proton center to offer uniform beam scanning.