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Proton therapy may reduce risk of treatment complications for patients who need radiation for pancreatic cancer

JACKSONVILLE, Fla. — One of the challenges in treating pancreatic cancer effectively with radiation therapy is the potential of harming surrounding healthy organs such as the small intestine, stomach and kidneys. Researchers at the University of Florida Proton Therapy Institute have early evidence that proton therapy may significantly reduce this risk.

As reported this month at the 52nd Annual Meeting of the American Society for Radiation Oncology, a study from UF in conjunction with investigators from the University of Maryland compared treatment plans for a type of x-ray radiation called intensity modulated radiotherapy, or IMRT, with proton therapy plans for a series of pancreas cancer patients using established radiation guidelines. The study demonstrated that proton treatment plans reduced normal tissue radiation exposure. The most significant reductions were seen for the small intestine, right kidney and stomach.

“The advantage of proton therapy is clear,” said R. Charles Nichols, M.D., an assistant professor of radiation oncology and radiation oncologist at the UF Proton Therapy Institute. “Our best IMRT treatments for pancreatic cancer can be improved upon by proton therapy. With protons we can both deliver the optimal dose to the targeted treatment area and reduce the risk of treatment complications without compromising the chance for cure.”

The study looked at eight patients with surgically removed pancreatic head cancers who underwent IMRT planning as well as proton planning. The proton plans achieved the same radiation dose to the treatment area as the IMRT plans, but reduced the volume of normal tissues receiving a defined threshold radiation dose by as much as 88 percent.

Two protocols for treatment of pancreatic cancer are currently available at the UF Proton Therapy Institute. The first offers proton therapy for patients with inoperable tumors. The second offers preoperative proton therapy with oral chemotherapy for patients who are candidates for surgery.

The UF Proton Therapy Institute, open since 2006, treats cancer patients with [proton therapy](#), a form of radiation that destroys cancerous tumors while preventing damage to

healthy, normal body tissue and organs. Proton therapy can deliver both an optimal high dose and spare healthy tissue, especially in hard to reach tumors in the [brain](#), [head and neck](#), [prostate](#) and [lung](#) as well as sarcomas, lymphomas and childhood [cancers](#).

UF Proton Therapy Institute is a nonprofit 501(c)3 organization affiliated with the UF College of Medicine and the UF Shands Cancer Center, dedicated to delivering state-of-the-art cancer treatment and setting new standards for treating and curing the disease. The cancer treatment facility houses both conventional radiation and proton therapy, and delivers proton therapy to 100 patients a day. For more information about UF Proton Therapy Institute, please visit www.floridaproton.org, or call toll-free 877-686-6009.