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Move over proton beam, here comes carbon ion

Some hospital groups back newer, possibly more potent, cancer therapy

By [Jay Greene](#)

Four hospital groups that are part of the **Michigan Particle Therapy Consortium** now are favoring an estimated \$300 million carbon ion radiotherapy center over a \$160 million proton beam cancer center.

At a scientific presentation last Thursday at **Henry Ford Hospital** in Detroit, Dr. Gerhard Kraft, one of the world's leading medical scientists in carbon ion cancer treatment, told more than 75 people that carbon ion is "better than anything else," including proton therapy.

Kraft is the primary medical researcher with the GSI research facility in Heidelberg, Germany. He was invited to Henry Ford by members of the consortium, which include **Henry Ford Health System**, **University of Michigan Health System** in Ann Arbor, **Barbara Ann Karmanos Cancer Institute** in Detroit and **Genesys Hurley Cancer Institute** in Flint.

"Carbon ion has a more potent biologic effect to kill cancer cells," Kraft said. There are several combination carbon ion and proton beam therapy centers operating in Europe and Japan, with more under development, he said.

William Beaumont Hospitals in Royal Oak is building a \$160 million proton-beam therapy cancer center in a for-profit joint venture with **ProCure Treatment Centers** in Bloomington, Ind.

"Heavy-ion (such as carbon-ion) research is in its relative infancy compared to proton therapy, said Dr. Larry Kestin, radiation oncologist at Beaumont. "Substantial clinical evidence exists to support treatment of cancer patients with proton therapy based on outcomes over several decades."

Proton beam therapy is a form of cancer radiation treatment that some believe is superior to standard radiation care. A carbon ion cancer therapy center, which has yet to receive approval by the **U.S. Food and Drug Administration**, could cost upwards of \$300 million. Carbon ions are suggested to be as precise as proton beam yet possibly yield more cancer-killing energy at the tumor site.

Kestin said more study is required to prove the superiority of carbon ions over proton therapy.

"The evidence for proton therapy is based purely on superior physical properties, which are clearly proven, and have been corroborated through decades of clinical outcomes data at multiple centers," Kestin said.

If the Michigan Particle Therapy Consortium builds a carbon ion cancer center, Kraft said it could be the first in the United States.

"I think the time for carbon ion therapy has come," he said.

Touro University in Vallejo, Calif., has announced plans to build a combined proton and carbon therapy center outside San Francisco. The **Mayo Clinic** in Rochester, Minn., also is said to be considering a combined therapy center.

About five centers nationally offer proton beam therapy and eight more are in the planning stages, including two in Chicago.

Thomas Campbell, associate vice president for planning and business development at the UM Health System, said the group is looking at carbon ion as the preferred cancer therapy, but the group also may offer proton beam as a combination

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therapy.

Campbell also confirmed the consortium is looking at sites in Oakland County, Wayne County and elsewhere in Southeast Michigan.

William Schramm, Henry Ford's senior vice president of strategic business development, said the consortium expects to submit a certificate of need application for the carbon ion center in the next few months.

But Schramm said even if the consortium receives all necessary state approvals by the end of the year, it still could take until 2012 for the carbon ion center to open. Beaumont expects its proton beam center to open in 2010.

On Sept. 16, the **Michigan Certificate Of Need Commission** is expected to give final approval to a revised CON rule that would require at least four of nine high-volume cancer hospitals to form a collaborative to build and operate either a proton beam therapy program or some other similar heavy particle accelerator as carbon ion.

However, Campbell said the consortium is hoping the CON Commission further relaxes the rule to allow more hospitals to join the group. The consortium is talking with as many as four other hospitals about joining the group.

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