Title: Facility Startup for Proton Therapy: Who, What, Why, How, Where, and When

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The physical characteristics of proton beams show a very favorable dose distribution in depth represented by spread out Bragg peak. Through their ability to deliver laterally and distally shaped homogenous fields, proton beams have been shown to be a precise and practical method for delivering highly conformal radiotherapy. However, dose coverage of proton therapy is more sensitive than that of conventional radiotherapy to target movement and patient positioning. That is, proton beam treatment requires more accurate patient positioning to take full advantage of its superior conformity of dose.

In this presentation, I would like to discuss the basic proton therapy and share my experience for the proton therapy project at National Cancer Center in Korea and McLaren Proton Therapy Center in US. The Proton Therapy Cancer (PTC) at NCC, Korea has 7,000 m2 facility devoted to proton cancer therapy and features integrated, cyclotron type proton accelerator and beam delivery systems (IBA), treatment planning (Eclipse, Varian Medical Systems), data management (Aria, Varian Medical Systems) and digital imaging positioning systems (DIPS). There are two gantry rooms, 1 fixed beam treatment room and 1 experimental site in PTC.

Built at McLaren Cancer Institute in Flint, Michigan, the McLaren Proton Therapy Center (MPTC) and existing cancer center will be clinically and operationally integrated. MPTC is comprised of 52,000 sq. ft. of space (42,000 new and 10,000 renovated Cancer Institute space). Exterior construction began in October 2010 and was completed in December 2011. With a total cost of $80 million, the project took shape with less time and less expense than other proton facilities currently in existence.
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