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The role of Raptor for the democratization of proton therapy .

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The role of Raptor for the democratization of proton therapy

The prospects of proton therapy will depend largely on our ability to make this treatment modality affordable for the majority of our patients. One potential solution to achieve substantial cost savings is to get rid of the large and costly gantry by positioning the patient on a flexible chair relative to a fixed proton beam. Raptor can facilitate this approach by providing the following capabilities:

1. Online monitoring of the patient by advanced surface and volumetric imaging.
2. Integration of soft robotics to nudge the patient in the intended position.
3. Rapid determination of the stopping power distribution for different postures.
4. Combination of position and posture corrections with beam spot adjustments.
5. Dynamic re-optimization of the treatment plan.

In this presentation we will discuss the progress made and the challenges that remain in each of these areas, resulting in research questions to be addressed by Raptor. If successful, Raptor will have made a major contribution to the democratization of proton therapy.

Presenter: BORTFELD, Thomas (Harvard Medical School)