



Effective Health Care

Proton Beam Therapy for Tumors Nomination Summary Document

Results of Topic Selection Process & Next Steps

- Proton beam therapy for tumors was found to be addressed by a recently completed technical brief titled *Particle Beam Radiation Therapies for Cancer*. The final report was posted to the AHRQ Web site in September 2009 and is available at [http://www.effectivehealthcare.ahrq.gov/ehc/products/58/173/particle%20beam%20mainreptrev11-09\(r\).pdf](http://www.effectivehealthcare.ahrq.gov/ehc/products/58/173/particle%20beam%20mainreptrev11-09(r).pdf). Given that the report covers this nomination, no further activity will be undertaken on this topic.

Topic Description

Nominator:	Public payer
Nomination Summary:	The nominator questions when proton beam therapy is appropriate for treatment of tumors and what decision guidelines should be used to determine appropriateness of treatment.
Key Questions from Nominator:	None

Considerations

- This topic was found to be addressed by a technical brief titled *Particle Beam Radiation Therapies for Cancer*. The key questions from this report include:

Section 1: Description of the Therapies

1. What are the different particle beam radiation therapies that have been proposed to be used on cancer?
2. What are the theoretical advantages and disadvantages of these therapies compared to other radiation therapies that are currently used for cancer treatment?
3. What are the potential safety issues and harms of the use of particle beam radiation therapy?

Section 2: Instrumentation Issues

1. What instrumentation is needed for particle beam radiation and what is the FDA status of this instrumentation?

2. What is an estimate of the number of hospitals that currently have the instrumentation or are planning to build instrumentation for these therapies in the USA?
3. What instrumentation technologies are in development?

Section 3: Description of the Literature

- Systematic literature scan on studies on the use and safety of these therapies in cancer, with a synthesis of the following variables:
 - Type of cancer/patient inclusion criteria
 - Type of radiation/instrumentation and algorithms used
 - Study design/size
 - Comparator used in comparative studies
 - Concurrent/prior treatments
 - Length of follow up
 - Outcomes measured
 - Adverse events/harms/safety issues reported