

# Investment in proton beam therapy for cancer may be premature

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Both the US and UK are pouring money into building proton accelerators to treat cancer. They have been described as the world's "most costly medical devices" but in an article published in the British Medical Journal today, journalist Keith Epstein reports that "no clear evidence of better effectiveness exists" and asks whether the investment is premature.

Proton beam treatment is thought to target [cancerous tissue](#) more precisely than conventional radiation, minimising harm to healthy tissue while reducing side effects and increasing cure rates. It has been shown to be beneficial and cost effective for children with cancer and for some rare brain cancers.

The US has invested millions of dollars in 10 [proton beam](#) centres, and 19 more are being built. While in the UK, the [health secretary](#) recently announced that the NHS is to spend up to £250m on two centres despite no appraisal by the National Institute for Health and Clinical Excellence (NICE).

But proton beam therapy, especially in the US, is now being marketed as a treatment for prostate cancer where, not only is the benefit unclear but, in some cases, the side effects appear to be no better than conventional radio therapy, reports Epstein.

In fact, signs that proton beam therapy is less cost effective than conventional radiation for prostate cancer have been increasingly evident

since 2007, he adds.

Earlier this year, Professor Ezekiel Emanuel, an oncologist at the University of Pennsylvania and former adviser to President Obama described proton beam therapy as "crazy medicine and unsustainable public policy."

He said: "If the United States is ever going to control its healthcare costs, we have to demand better evidence of effectiveness and stop handing out taxpayer dollars with no questions asked."

Yet the first randomised controlled trials comparing x rays with proton beams is only just about to begin and won't be completed for seven years.

Harvard Medical School radiation oncologist Anthony Zietman told the BMJ: "We rush into treatments before they are proved" and suggests that, "in some instances, proton therapy might be inferior to existing treatments."

Robert Foote, a radiation oncologist at the Mayo Clinic is also worried that some centres are adopting the proton beam therapy before enough research has been done and, possibly, for the wrong indications.

Provided by British Medical Journal

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