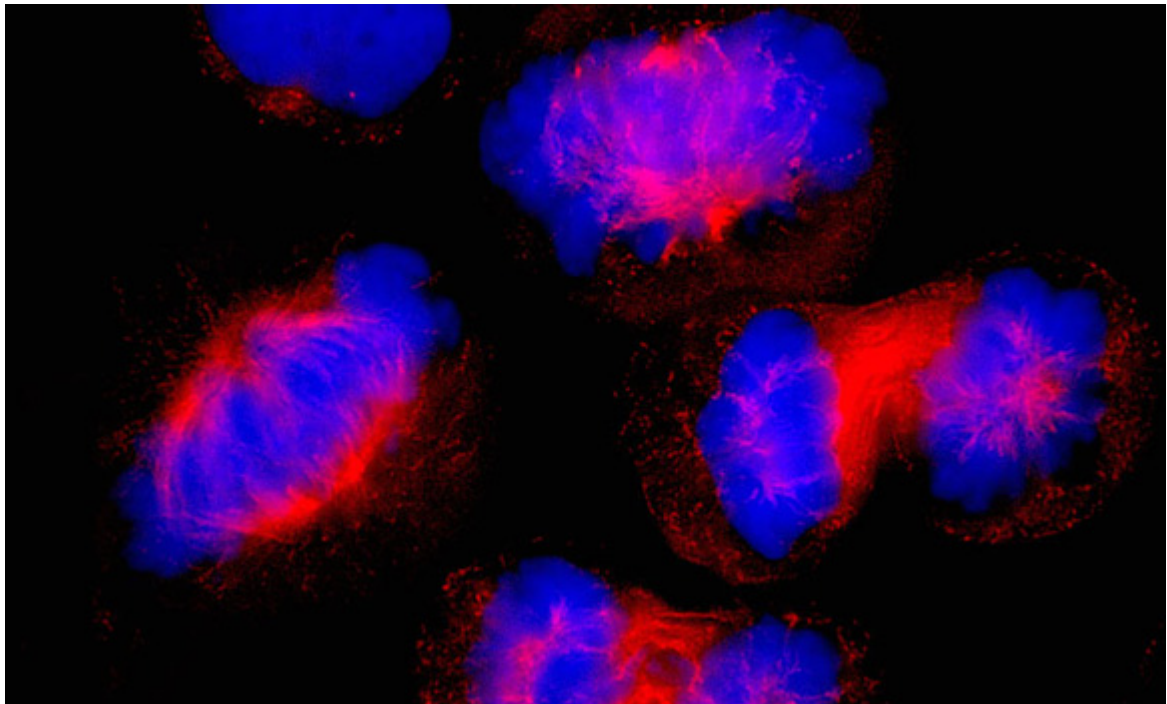


# NHS plans to zap cancer with proton beams

**The National Health Service has shortlisted three sites around the country to build Britain's first proton therapy centres**

Jonathan Leake, Science Editor  
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British cancer patients could be offered a radical new form of radiotherapy (Handout)

British cancer patients could be offered a radical new form of radiotherapy that burns out tumours while doing far less damage to the surrounding tissue.

The National Health Service has shortlisted three sites around the country to build Britain's first proton therapy centres, where tumours would be destroyed by beams of subatomic particles fired into patients' bodies. Each centre would cost about £80m.

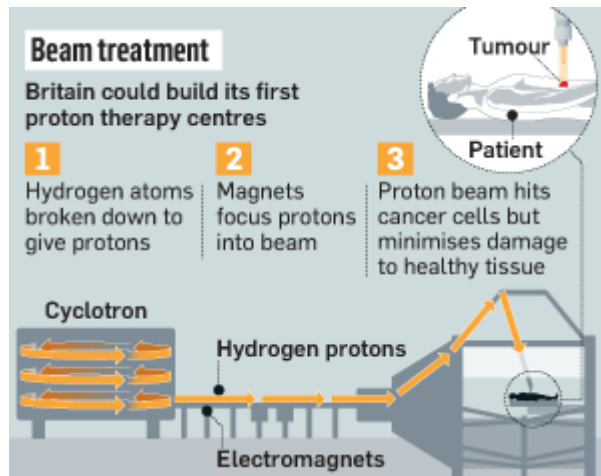
It is also in talks with a health firm that plans to build a fourth centre in London to treat NHS patients.

Proton therapy could mark one of the greatest advances in cancer treatments for years.

“Proton beams allow us to target tumours precisely while doing far less damage to the surrounding tissue than is possible with conventional x-ray therapy,” said Stuart Green, director of medical physics at University Hospital Birmingham, one of the centres hoping to create a proton beam facility.

Britain does have a small proton therapy centre, at Clatterbridge hospital, Wirral, but it can treat only eye cancers. Germany, France and America, by contrast, have several

centres. The NHS will send 60 patients for treatment abroad this year, at a cost of £40,000 a time.



Proton beams are generated by stripping hydrogen atoms of their electrons, leaving just protons, and focusing them into a beam with powerful magnets. Scientists can change the speed and intensity of the beam very precisely, so the protons dump most of their energy into a tumour and not into the surrounding tissue. This is particularly important in children: x-ray treatments can damage growth and cause cancer later in life.

Private health firms believe proton therapy will become the treatment of choice for many cancers. Mike Sinclair of Proton Therapy Global, the firm behind the plan for a central London treatment centre, said: "Around 300,000 people a year get cancer in Britain and half of those have radiotherapy.

"Of those, around half could benefit from proton therapy. In the long term Britain will need 30-40 of these centres."