

Real-life story - Dr Chris Golby

Chris Golby works at the Christie, Manchester's famous cancer hospital where he plans and checks [radiotherapy](#) [1] treatments for people with cancer.

Dr Chris Golby

Radiotherapy physicist

Employer or university

The Christie NHS Foundation Trust

The aim is to produce a 'beam's eye view' which matches the shape of the tumour as closely as possible

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I work with machines worth millions of pounds called linacs (short for linear accelerators), which deliver radiation to tumours. [Radiotherapy](#) [1] is a careful balancing act - on the one hand cancer cells must be bombarded with enough radiation to kill them, but on the other, we must avoid damaging any of the normal cells either that surround the cancer, which the radiation beams must travel to reach the tumour.

I work out how treatments should be staged over a course of weeks or months in order to give normal cells time to recover before the next dose. I also use software to carefully plan treatments so that each is bespoke to the patient. Linacs produces multiple beams and each one can be angled. The patient can also be rotated within the machine. Taken altogether, this means incredible flexibility in creating a 3D beam of radiation.

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My perspective

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The aim is to produce a 'beam's eye view' which matches the shape of the tumour as closely as possible. If necessary, I also plan how to shield delicate areas like the spine and am involved in troubleshooting if problems occur during treatments. I have little direct contact with patients but my job is nevertheless very people focused as there are many healthcare staff involved in an individual's cancer treatment, including doctors (oncologists and radiologists), nurses and radiotherapists. And, because the Christie is heavily involved in research, there is a great deal of interaction with other scientists and researchers.

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How I got in

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I have always been physics mad but what attracted me most to this job was that it applies my knowledge of physics, not to diagnosis as is common with many other aspects of medical physics, but to treat patients.

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Links

[1] <https://www.healthcareers.nhs.uk/glossary#Radiotherapy>