

Chemists turn to gel to ease side-effects of cancer treatment

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Three young scientists in the University of York's Department of Chemistry have developed a gel that could spare cancer patients some of the unpleasant and dangerous side-effects of radiotherapy.

PhD students Andrew Wilson and Paul Watson, together with post-doctoral research fellow Mark Godber, have developed the gel which will help doctors to target cancer tumours more efficiently.

Now, the group has secured £30,000 under the Bioscience Yorkshire Enterprise Fellowship scheme to commercialise their idea.

Their product, a formulation of various chemicals, is a gelatine whose density is comparable with human tissue and can be tailored for different applications.

The density of the gel alters when subjected to radiation beams, so radiologists can use it to take the guesswork out of the intensity-modulated radiation therapy treatment of malignant cancers.

By testing the radiation beam on the gel first, radiologists can judge more accurately the precise dose needed to treat the tumour, enabling them to calibrate their machines accordingly.

Andrew Wilson said: "This technique should allow more rapid, accurate, and therefore safer treatment of malignant tumours."

A different formula of the gel can be used as a phantom in the detection

of brain tumours. Working with researchers at the Centre for Magnetic Resonance Investigations, at Hull Royal Infirmary, the team has developed a technique which uses the gel to improve the accuracy of targeting tumour cells.

Magnetic Resonance Spectroscopy can be used as an imaging technique allowing the tumour to be identified accurately, because of the differing biological activity in tumour cells compared with healthy cells. A phantom is required to prove the accuracy of these measurements.

The team has already supplied samples of the gels to the Princess Royal Hospital in Hull and hope to go into commercial production soon.

Source: University of York

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