Radiotherapy for prostate cancer raises risk of new tumours

Patients should be informed that radiotherapy raises the risk of secondary cancer, say health experts

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Prostate cancer patients who undergo radiotherapy raise their risk of getting other cancers by nearly 70 per cent, a new study suggests.

Health experts have warned that men who have [**low-risk prostate cancer**](http://www.telegraph.co.uk/news/science/science-news/11858609/Prostate-cancer-test-which-detects-tumour-size-could-save-thousands-of-lives.html)should not be given radiotherapy to avoid triggering future disease elsewhere.

Researchers in the US and Canada looked at 21 studies to determine if the treatment did cause secondary tumours to develop.

The analysis suggests that the risk of developing bowel cancer within 10 years of radiotherapy rose by 68 per cent, while the odds of rectal cancer increased by 62 per cent and bladder cancer by 39 per cent.

Around 47,000 men are diagnosed with [**prostate cancer**](http://www.telegraph.co.uk/news/health/news/11571730/Prostate-cancer-could-be-wiped-out-by-new-treatment.html) each year and many will be given radiotherapy, particularly as the first line of defence against low grade cancer. At least two thirds will have it at some point in their treatment.

But many health experts now believe that small, slow growing tumours should be left alone and simply monitored rather than targeting them with aggressive treatments which can lead to debilitating side effects.

The new study suggests that treatment could also have long term health implications, particularly for men who develop [**prostate cancer**](http://www.telegraph.co.uk/news/health/news/12044908/Prostate-cancer-test-is-more-reliable-if-done-twice.html) in middle age.

“We identified an association between radiotherapy for prostate cancer and the development of secondary cancers of the bladder, colorectal tract, and rectum, compared with no radiotherapy or surgery,” said Dr Robert Nam at the University of Toronto

“Implications of our results for clinical practice include use of these results in discussion with patients for decision making. In particular, for patients with a long life expectancy of 20 years or more, the possibility of secondary malignancy related to radiation needs to be included in management discussion.

“This information could be particularly important to a large proportion of patients where treatment is recommended and according to treatment guidelines where surgery or radiation would be equal options for them to choose.”

Overall the research suggests that up to one extra person in 200 will develop bladder cancer because of radiotherapy over a 10 year period, and around one in 100 for bowel and rectal cancer. There was no increased risk found for lung or blood cancers.

Although the researchers point out the overall chance of developing cancer is still low, they say radiotherapy is an ‘avoidable risk.’

Dr Christine Eyler, a clinical fellow from [**Harvard University’s Radiation Oncology Program**](http://www.harvardradiationoncologyprogram.org/) said: “There is a well-recognised association between exposure to radiation and carcinogenesis

“This confirms our belief that second malignancy should be added to the already long list of avoidable hazards associated with treatment for those men with low risk prostate cancer who simply need no treatment at all.

“Ultimately, clinicians and patients must decide together whether, for example, the roughly 1.4 -1.7 fold increase in relative risk of a second malignancy after a 10 year lag period justifies alternative treatments.”

Previous studies have shown that radiotherapy caused new cancers in patients treated for Hodgkin’s lymphoma. But it has been trickier to spot a link in prostate cancer because often men develop it when they are older and do not live long enough for a second tumour to develop.

But Dr Eyler added: "A pragmatist, however, might ask, what are the real world implications for individual patients?

“Despite an impressive relative risk, the absolute risk remains small, and the cancers discovered, although certainly requiring treatment, might not be lethal

“It should not stand in the way of an effective and well-studied treatment being given to men with higher grade, lethal prostate cancer for whom the potential benefit simply dwarfs the risk.”

The research was published in the British Medical Journal.