

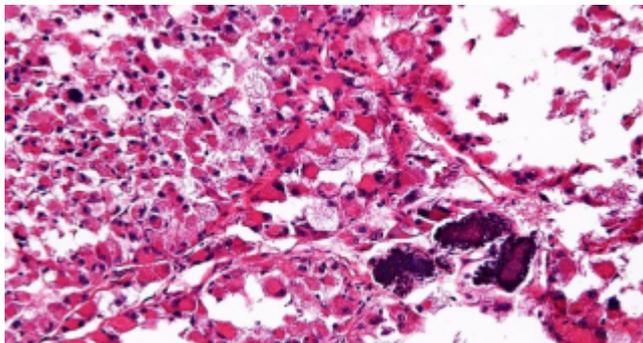
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Whole-body MRI scans do not increase anxiety in those with the highest inherited cancer risk

Date:

12 November 2019

In the first UK study to evaluate the psychosocial impact of whole body MRI scans in individuals at very high cancer risk, researchers from The Royal Marsden NHS Foundation Trust and The Institute of Cancer Research, London tested different time points in an individual's screening journey to measure their worry and anxiety when going through the screening process.

Whole-body MRI scans do not increase anxiety in those with the highest inherited cancer risk

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Patient receiving MRI scan

The impact of genetic screening

Whole body MRI screening has already shown beneficial clinical outcomes for patients with regards to early diagnosis for those who carry a mutation in a gene called TP53, which has a very high cancer risk. However, it is well documented that living with a TP53 gene mutation is a psychosocial burden and so considering the importance of mental health and evaluating whether this approach to screening causes any psychological problems is crucial. In the general population, psychological reactions to MRI screening vary and a significant number of people have anxiety reactions ranging from anticipatory anxiety to a full-blown panic attack.

The findings, **published in the *Journal of Medical Genetics*** ^[8], suggest giving patients a whole body MRI scan does not produce any additional worry in the short and medium term. It found no evidence of a negative impact on physical, emotional or cognitive functioning in people who carry the TP53 gene mutation, compared to people who don't. 98% of people from the TP53 carrier group and 77% of controls agreed that they would attend an offered MRI scan the following year.

Evaluating anxiety levels

Participants completed psychosocial questionnaires at enrolment on to the study, immediately before MRI, before and after MRI results and at 12, 26 and 52 weeks follow up in order to evaluate anxiety and worry in patients throughout the screening process. 86% of people reported that they would encourage a family member to attend for MRI screening at every time-point.

The first phase of the **SIGNIFY study** [9] was led by researchers at **The Institute of Cancer Research, London (ICR)** [10], **The Royal Marsden** [11], Central Manchester University NHS Foundation Trust and 11 other UK hospitals and recently reported the outcomes of whole-body MRI scans as a screening tool for people with a mutation in the TP53 gene, which confers a very high risk of cancer. Men and women with mutations in this gene were shown to benefit from having whole body scans as potentially deadly tumours were picked up and were able to be treated. The research was funded by **The Royal Marsden Cancer Charity** [12] through the Annabel Evans Memorial Fund and the NIHR Biomedical Research Centre at The Royal Marsden and the ICR.

44 people on the study were known to have a mutation in the TP53 gene with none having had a cancer diagnosis in the last 5 years, and 44 were population controls with a very low chance of having a TP53 mutation, all of whom had no cancer symptoms. All study participants were assessed using a set of standardised questionnaires which measured anxiety and depression, cancer worry, physical and psychological health, perceived risk of cancer, satisfaction with the process of screening and the presence of intrusive thoughts relating to MRI screening and cancer anxiety.

Those participants with a previous cancer diagnosis, but meeting the eligibility criteria, were asked to answer in respect to their cancer worries relating to a future diagnosis. Study measures included *The Cancer Worry Scale*, *The Hospital Anxiety and Depression Scale*, *The Impact of Events Scale* and *The Health Questionnaire*.

Elizabeth Bancroft, Senior Research Nurse at The Royal Marsden and study first author said:

?Internationally, there is increasing interest in the use of whole-body MRI scanning as a screening tool in people with TP53 gene mutations as we are aware of the benefits with regards to early diagnosis. Alongside clinical outcomes, it is also important to consider mental health and evaluate whether this approach to screening causes any psychological problems, which, particularly for patients who have TP53 gene mutations, is largely unknown.

As expected, higher levels of cancer worry and depression were reported in patients with TP53 gene mutations but this was not negatively impacted by the use of whole-body MRI screening. Overall there was very little impact of undergoing whole-body MRI screening on psychological health. These results compliment the findings of the screening phase of the SIGNIFY study, and support the wider implementation of whole-body MRI screening in these high-risk patients.?

Our research ^[13]

Our six research themes and two cross-cutting themes bring together world-leading clinicians, scientists and allied health professionals, so we can ensure that novel diagnostics and physical and systemic therapies are rapidly available to all cancer patients.

Find out more about our research ^[13]

Source URL: <https://www.cancerbrc.org/news-events/news/whole-body-mri-scans-do-not-increase-anxiety-those-highest-inherited-cancer-risk>

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[8] <https://jmg.bmj.com/content/early/2019/11/07/jmedgenet-2019-106407>

[9] <https://www.royalmarsden.nhs.uk/news-and-events/news/whole-body-scans-benefit-people-highest-inherited-cancer-risk>

[10] <https://www.icr.ac.uk/>

[11] <https://www.royalmarsden.nhs.uk/>

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